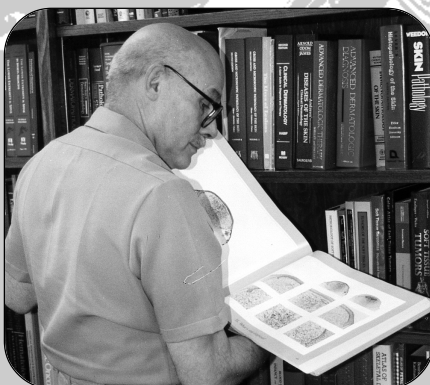
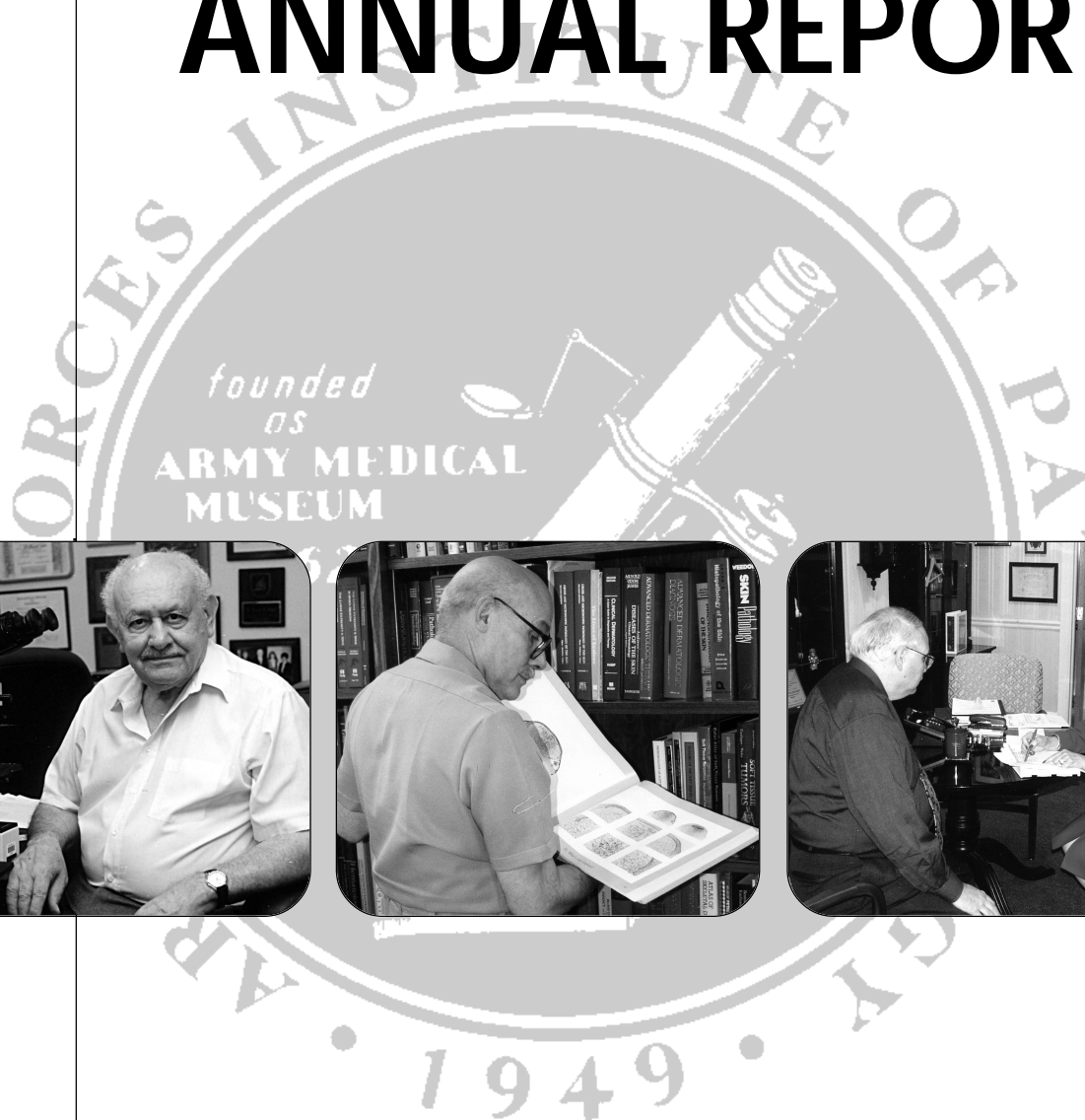


○ ○ ○
○ ○ ○
○ ○ ○

2001

ARMED FORCES INSTITUTE OF PATHOLOGY

ANNUAL REPORT



2001 ANNUAL REPORT

Armed Forces Institute of Pathology
Washington, DC 20306-6000

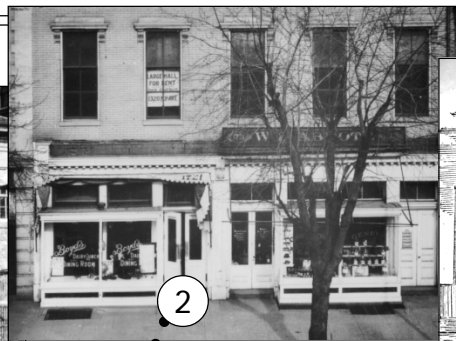


CONTENTS

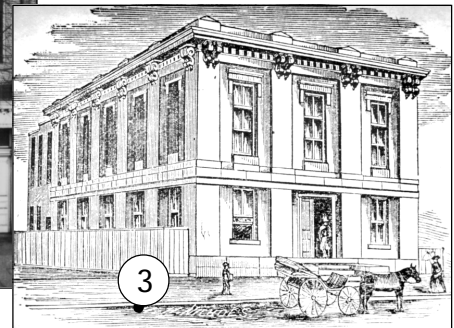
Mission	5
Organization Chart	8
The Executive Committee	9
Board of Governors	10
Scientific Advisory Board	11
DIRECTOR'S MESSAGE	6
OFFICE OF THE DIRECTOR	18
<i>Glenn N. Wagner, CAPT, MC, USN, The Director</i>	
Office of Legal Counsel	20
Center for Clinical Laboratory Medicine	22
Office of Laboratory Management	25
Office of Strategic Planning	27
CENTER FOR ADVANCED PATHOLOGY	32
<i>Florabel G. Mullick, MD, SES, ScD, Principal Deputy Director, Director, CAP</i>	
Office of the Director	32
Center for Advanced Pathology—Operations	37
GROUP 1— MUSCULOSKELETAL & REPRODUCTIVE DISEASES	
Department of Dermatopathology	40
Department of Genitourinary Pathology	45
Division of Nephropathology	51
Department of Gynecologic and Breast Pathology	55
Department of Orthopedic Pathology	59



Riggs Bank Building, Pennsylvania Ave. and
15th St., NW, 1862–1863



180 Pennsylvania Ave., NW, 1863



Corcoran Schoolhouse, 1325 H Street,
NW, 1863–1866

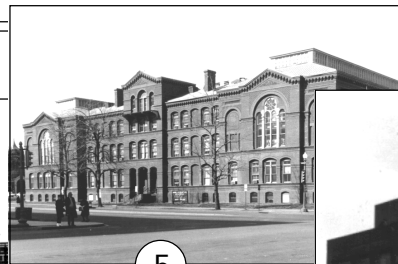
○ ○ ○
○ ○ ○
○ ○ ○

Soft Tissue Pathology	64
GROUP 2— HEART, LUNG & AERODIGESTIVE DISEASES	89
Department of Cardiovascular Pathology	72
Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology	83
Department of Hepatic and Gastrointestinal Pathology	89
Division of Hepatic Pathology	93
Division of Gastrointestinal Pathology	99
Department of Oral and Maxillofacial Pathology	106
Department of Pulmonary and Mediastinal Pathology	113
GROUP 3 — SPECIAL LABORATORY MEDICINE	141
Department of Cellular Pathology and Genetics	122
Division of Biophysics	125
Division of Cytopathology	128
Division of Clinical Genetics	130
Division of Molecular Pathology	131
Division of Prenatal, Perinatal, and Placental Pathology	142
Division of Quantitative Pathology	144
Department of Hematopathology	149
Department of Neuropathology and Ophthalmic Pathology	155
Division of Ophthalmic Pathology	163
Department of Scientific Laboratories	166
Histopathology Laboratories	167
Tri-Service School of Histotechnology	169
Electron Microscopy Laboratory	170
Immunopathology Laboratory	171
GROUP 4 — ENVIROMENTAL MEDICINE	171
Department of Environmental and Toxicologic Pathology	174
Division of Biochemical Pathology	175
Division of Biophysical Toxicology	178
Division of Chemical Pathology	185
Division of Environmental Pathology	187
Division of Environmental Toxicology	192
Department of Infectious and Parasitic Diseases Pathology	196
Division of Infectious and Parasitic Diseases Pathology	198



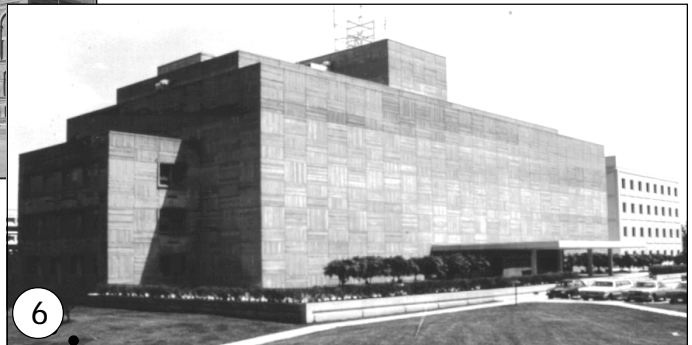
4

Ford's Theatre
511 10th St., NW,
1866–1887



5

The "Old Red Brick," 7th St. and
Independence Ave., SW, 1888–1954

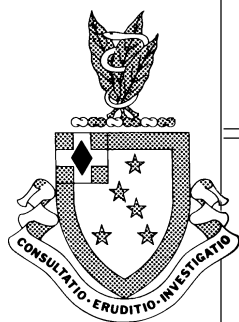


6

Home of the AFIP on the grounds of Walter Reed
Army Medical Center since 1955

○ ○ ○
○ ○ ○
○ ○ ○

Division of Microbiology	204
Division of Molecular Pathobiology	209
Department of Radiologic Pathology	211
Department of Veterinary Pathology	225
Division of Veterinary Pathology	226
Division of Laboratory Animal Medicine	227
GROUP 5 — LEGAL MEDICINE & FORENSIC SCIENCES	271
Department of Legal Medicine	242
Office of the Armed Forces Medical Examiner (OAFME)	246
DoD DNA Registry	253
Office of the Armed Forces Medical Examiner	253
Division of Forensic Toxicology	261
GROUP 6 — SPECIALIZED SERVICES	297
Department of Medical Education	270
Center for Scientific Publications	277
Department of Repository and Research Services	281
Research Services Division	282
Receiving and Accessions Division	284
Records Repository Division	285
Record Archives Branch/Medical Information Release Office	286
Pathology Data Branch	286
Materials Repository Division	287
Case Materials Accountability Division	289
Office of Quality Assurance	290
Department of Telemedicine	292
ADMINISTRATION	
<i>Lawrence E. Shaw, LTC, MS, USA, Chief of Staff for Administrative Services</i>	
Office of Chief of Staff for Administration	298
Directorate of Headquarters Operations	300
Directorate of Information Management	301
Automation Management Services Division (AMSD)	301
Mail Distribution Center	303
Records Management Division	303
Visual Information Division	303
Photography Section (Photo and Lab)	304
Electronic Multimedia Imaging Center (EMIC)	305
Exhibit Production Section (EPS)	305
Digital Media Illustration Services (DMIS)	309
Directorate of Logistics	310
Facilities and Services Division	312
Materiel Acquisition Division	314
Property Management Division	314
Materiel Receiving and Distribution Division	315
Office of Public Affairs	317
Directorate of Resources Management	323
Civilian Personnel Division	323
Manpower and Management Analysis Division	324
Financial Management Division	324
Office of Safety Management	325



NATIONAL MUSEUM OF HEALTH & MEDICINE	328
<i>Adrianne Noe, PhD, Director, National Museum of Health & Medicine</i>	
Department of Public Programs and Exhibitions	333
Department of Collections	337
Department of Research Collections	340
Human Developmental Anatomy Center (HDAC)	341
AMERICAN REGISTRY OF PATHOLOGY	348
2001 PUBLICATIONS LIST	352

Photo credits: Vincent Neaz, Steve Kruger, Anita Belen, and Robert Edwards

MISSION

The Armed Forces Institute of Pathology supports the United States Department of Defense and serves the American people by providing medical expertise in diagnostic consultation, education, and research to enhance the health and well being of the Nation.

VISION

The foremost pathology knowledge center, combating disease through:

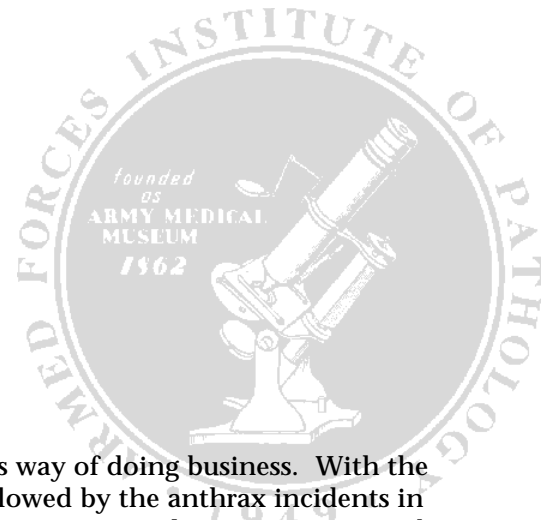
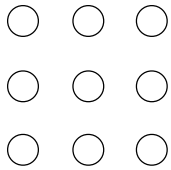
Authoritative Diagnosis
Future focus
Innovative Research
Preeminent Education

GUIDING PRINCIPLES

Patient comes first
Integrity/honesty
Professionalism
Excellence
Teamwork

GOALS

1. **PERFORMANCE**—An Institute that clearly pursues, establishes, and preserves world-class performance based on access, quality, and cost.
2. **RECRUITMENT & RETENTION**—An atmosphere of personal and professional growth that recruits, develops, and retains innovative, creative people and renowned leaders.
3. **OPERATIONS**—An efficient work environment in a central location that fosters trust and collaboration, mission focus.
4. **READINESS**—A tri-service, interactive Institute recognized nationally for its distinguished contributions to the medical services and mission readiness of the Armed Forces through scientific discoveries, consultations, education and training, investigations, and research and development.
5. **COLLABORATIONS**—An Institute that actively promotes formal collaborative projects, programs, and processes that benefit the Armed Forces and the nation with government, academia, industry, and worldwide partnerships with a combined commitment to stewardship.



DIRECTOR'S MESSAGE

This year brought significant changes in the AFIP's way of doing business. With the September 11 terrorist attack on the Pentagon, followed by the anthrax incidents in Washington, DC, the Institute's assets and responses to national security issues are being redefined.

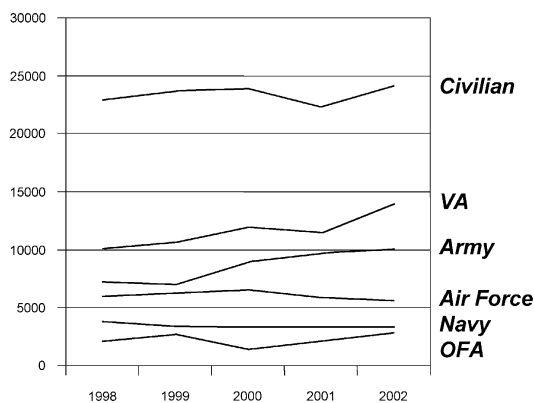
As you are probably aware, the Institute had its origins as the Army Medical Museum, founded in 1862 by directive from the Army Surgeon General. Its assignment was to collect materials and data relative to combat injuries and disease processes affecting Union forces. The data collected during the Civil War remain the most comprehensive of military medicine, and the public exhibits of that era on display in the National Museum of Health and Medicine continue to attract and inspire visitors, students, and researchers alike. The Institute has restructured itself several times over these 140 years,

progressing from the Army Medical Museum to the Army Institute of Pathology (1946), and to the Armed Forces Institute of Pathology (1949), the first DoD experiment in triservice assignments and mission. During this evolution, the Army Post-graduate Medical School became the Walter Reed Army Institute of Research (WRAIR) and a separate command in 1898, followed by the transformation of the Army Surgeon General's Library into the National Library of Medicine (NLM) in 1952.

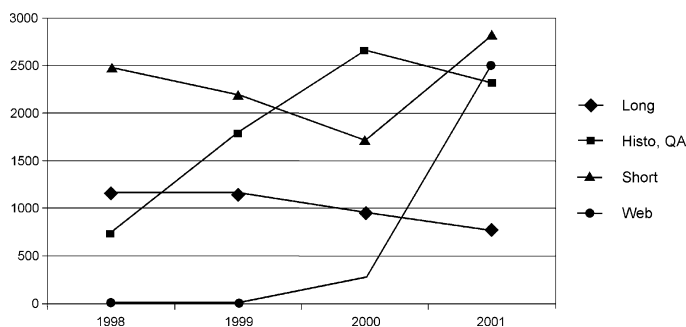
Today, the AFIP has a staff of 840 and an operating budget approaching \$90M. On average, the Institute receives close to 100,000 cases a year for consultation, 60,000 of which are accessioned for second opinions, most in surgical pathology and oncology. The Institute also provides 500,000 hours of education and training in the form of residencies, fellowships, courses, seminars, study sets, and distant learning. Research efforts continue in clinicopathologic correlations, basic science, environmental and toxicologic pathology, forensic sciences, and oncology, averaging over 300 approved protocols a year, with a significant number externally funded. These efforts result in numerous publications, presentations, abstracts, and posters.

This year, 2001, the AFIP focused on the development and execution of a comprehensive business plan to define its direction for the future, based on changing health care delivery systems, performance measurements, practice parameters, technology, bioinformatics, and fiscal issues. At present, Institute staff are located in 9 buildings at 5 locations, with a third of employees at the AFIP Annex (Gillette Building) in Rockville, Maryland. Continued restructuring and reorganization is expected as the AFIP undergoes another sequential program review by the

AFIP Accessioned Secondary Consultation Case Volume by Source Calendar Year 2001

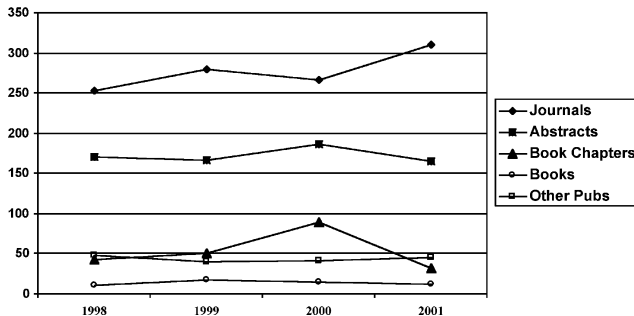


Education Courses

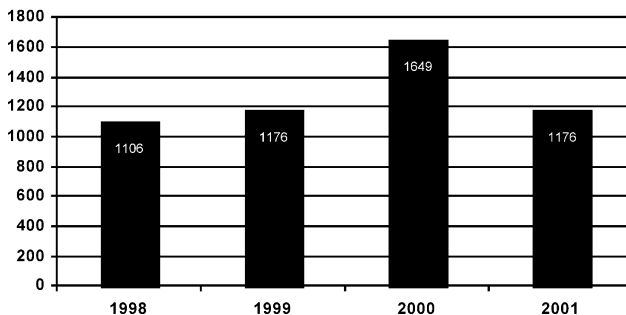


Department of Defense. Recent AFIP strategic conferences, sponsored by the Army Surgeon General, have resulted in the Institute's revalidation as a national asset with unique programs and broad access. Continuing emphasis on collaborative activities with government, academia, and industry in consultation,

Research Publications



Presentations



education, and research help define the Institute's many programs.

Department of Defense programs under the AFIP's jurisdiction include the DoD Automated Central Tumor Registry (ACTUR), which tracks over 270,000 active DoD cancer cases; the Center for Clinical Laboratory Medicine (CCLM), with oversight of DoD clinical laboratory proficiency testing, accreditation, and function; the DoD Patient Safety Center in the Department of Legal Medicine, which tracks adverse events in medical diagnoses and treatment; the Armed Forces Medical Examiner's System, including Forensic Toxicology and the DNA Repository and Identification Laboratory; and the National Museum of Health and Medicine (NMHM), with close to 100,000 visitors annually. The Museum is also home to a large number of research collections, widely used in collaborative education and research efforts, particularly in imaging and supercomputing.

The AFIP has 5 approved medical residencies/fellowships (forensic pathology, neuropathology, dermatopathology, hematopathology, and pulmonary pathology), as well as a collaborative residency program in oral pathology and the only DoD program leading to certification in veterinary pathology by the American College of Veterinary Pathologists. Graduates of the veterinary pathology program are assigned to DoD biomedical laboratories worldwide. Numerous Callender-Binford fellowships are offered in specialized areas of surgical pathology, representing the core

expertise of the Institute's 25 system-based pathology departments.

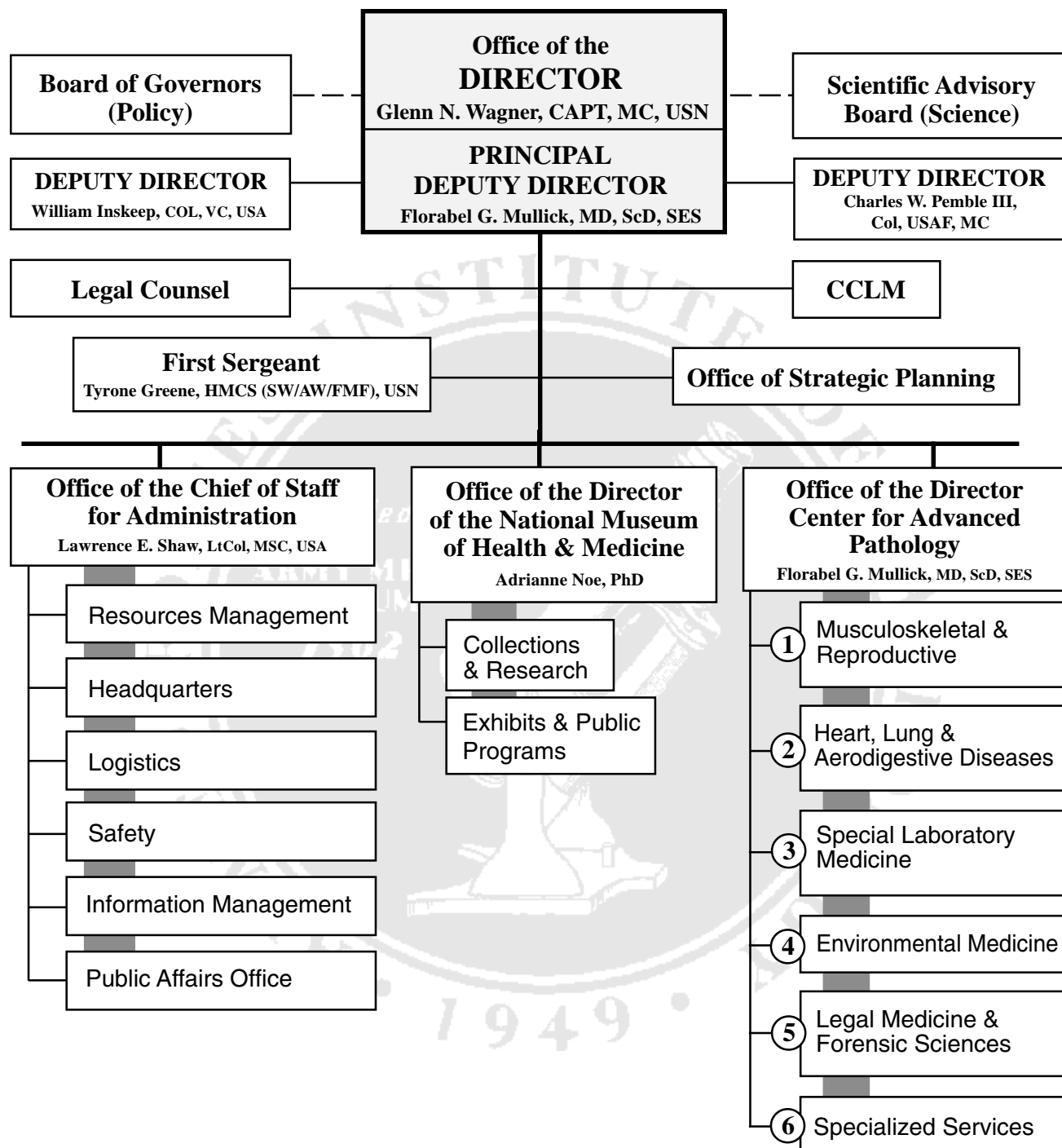
As the reader peruses this annual report, it is hoped the depth and breadth of the AFIP's activities will be solidified and the Institute will truly be seen as the "People's Institute."

Glenn N. Wagner

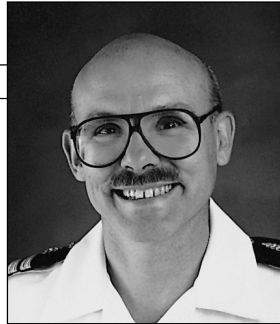
Glenn N. Wagner
CAPT, MC, USN
The Director

Organization Chart

Armed Forces Institute of Pathology



Executive Committee



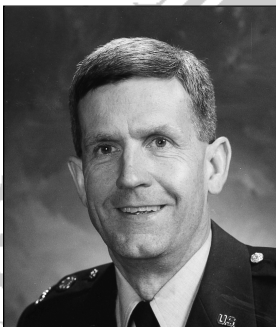
Glenn N. Wagner
CAPT, MC, USN
The Director



Florabel G. Mullick
MD, ScD, SES
Principal Deputy Director



Adrianne Noe, PhD
Director
National Museum of
Health and Medicine



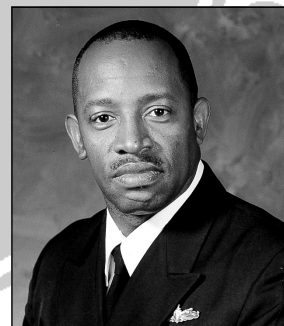
William Inskeep II
COL, VC, USA
Deputy Director



Charles W. Pemble III
Col, USAF, DC
Deputy Director



Lawrence E. Shaw
LTC, MS, USA
Chief of Staff for
Administration



Tyrone Green
HMCS (SW/AW/FMF)
US Navy
First Sergeant

Board of Governors

- ○ ○
- ○ ○
- ○ ○

The Board of Governors of the AFIP consists of the Assistant Secretary of Defense (Health Affairs), who serves as the Chairperson of the Board; the Assistant Secretary for Health, Department of Health and Human Services; the Surgeons General of the Army, Navy, and Air Force; the Chief Medical Director for the Department of Veterans Affairs; and a former Director of the Armed Forces Institute of Pathology. The Board of Governors meets quarterly, and, based on the recommendations of the Scientific Advisory Board and Institutional reports, establishes guidelines and broad administrative and professional policies in consonance with the medico-military objectives of the Institute. The Board of Governors met April 27, 2001.

LTG James B. Peake, MC, USA
The Surgeon General
United States Army

VADM Michael Cowan, MC, USN
The Surgeon General
United States Navy

LtGen Paul K. Carlton, USAF, MC
The Surgeon General
United States Air Force

David Satcher, MD, PhD
US Surgeon General
Department of Health and Human Services

Thomas L. Garthwaite, MD
Under Secretary for Health
Department of Veterans Affairs

Robert F. Karnei, MD
Wythe County Community Hospital
Wytheville, VA

Scientific Advisory Board

○ ○ ○
○ ○ ○
○ ○ ○

THE CHARTER FOR THE AFIP SCIENTIFIC ADVISORY BOARD states that the basic term of office of civilian members shall be two years and that no civilian member may serve more than two terms in succession; it further states that terms shall be staggered to provide a rotating membership. The Board meets at the call of the Director, AFIP, to advise him on scientific and technical matters. Board members are selected from outstanding specialists in their respective fields of medicine. The Board met June 1 and November 8 and 9, 2001.

Vernon W. Armbrustmacher, MD

City Medical Examiner II
Neuropathology
Office of the Chief Medical Examiner
New York, NY

Peter M. Banks, MD

Department of Pathology
Carolinas Medical Center
Charlotte, NC

Corrie Brown, DVM

Professor and Head
Department of Veterinary Medicine
College of Veterinary Medicine
The University of Georgia
Athens, GA

Cecilia M. Fenoglio-Preiser, MD

MacKenzie Professor and Director
Department of Pathology
College of MedicineN.
University of Cincinnati
Cincinnati, OH

William A. Gardner, Jr, MD

Louise L. Locke Professor and Chair
Department of Pathology
University of South Alabama
College of Medicine
Mobile, AL

A. Julian Garvin, MD

Professor and Chair, Pathology
Wake Forest/Bowman Gray School of Medicine
Winston Salem, NC

Jeffrey A. Kant, MD, PhD

Professor, Pathology and Human Genetics
Department of Pathology
University of Pittsburgh Medical Center
Pittsburgh, PA

Raymond J. Melrose, DDS

Los Angeles, CA

Beverly P. Nelson, MD

Department of Pathology
Northwestern University Medical School
Chicago, IL

William W. Olmsted, MD

Education Editor and Editor, RadioGraphics
Radiological Society of North America
Washington, DC

James R. Patrick, MD

Lucas County Coroner's Office
Toledo, OH

John E. Pless, MD

Professor of Pathology
Indiana University School of Medicine
Indianapolis, IN

Victor E. Reuter, MD

Department of Pathology
Memorial Sloan-Kettering Cancer Center
New York, NY

Fred G. Silva, II, MD

US & Canadian Academy of Pathology
Augusta, GA

Stanford Staff, MD

University of Maryland
Greenbaum Cancer Center
Baltimore, MD

Swan N. Thung, MD

Department of Pathology
Mount Sinai Medical Center
New York, NY

David H. Walker, MD

Professor and Chairman
Department of Pathology
University of Texas Medical Branch
Galveston, TX

James G. Zimmerly, MD, JD, MPH, LLD

Medical Director
AEGON Special Markets Group, Inc.
Baltimore, MD

Members of the SAB from the Federal Service

○ ○ ○
○ ○ ○
○ ○ ○

CDR William O. Rogers

NMRC Malaria Program (IDD)
Silver Spring, MD

LTC William F. Martin

Program Director, Reserve Affairs
Officer of the Assistant Secretary of Defense (Health Affairs)
Falls Church, VA

Theodore F. Beals, MD

National Director, Pathology & Laboratory Medicine
Veterans Administration Medical Center
Ann Arbor, MI

Robert M. Friedman, MD

Professor and Chairman
Department of Pathology
Uniformed Services University of the Health Sciences
Bethesda, MD

Kenneth Olden, MD

Director, OD/NIEHS/NIH (B2-01)
Research Triangle Park, NC

Alan S. Rabson, MD

Director, Division of Cancer Biology & Diagnosis
National Cancer Institute
National Institutes of Health
Bethesda, MD

Sherif R. Zaki, MD, PhD

Infectious Diseases Pathology
Centers for Disease Control & Prevention
Atlanta, GA

Stephen Ostroff, MD

National Center for Infectious Diseases
Centers for Disease Control & Prevention
Atlanta, GA

AFIP Key Personnel

○ ○ ○
○ ○ ○
○ ○ ○

Glenn N. Wagner, CAPT, MC, USN
The Director

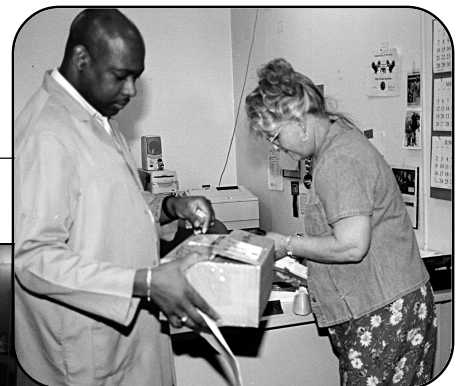
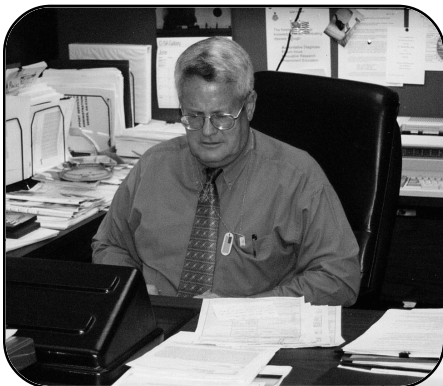
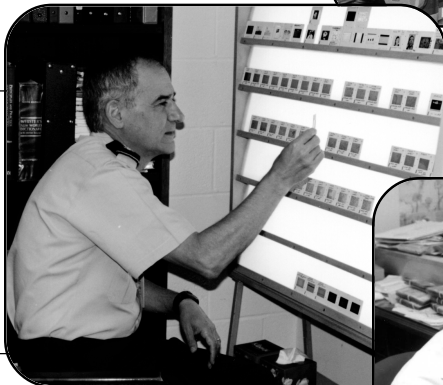
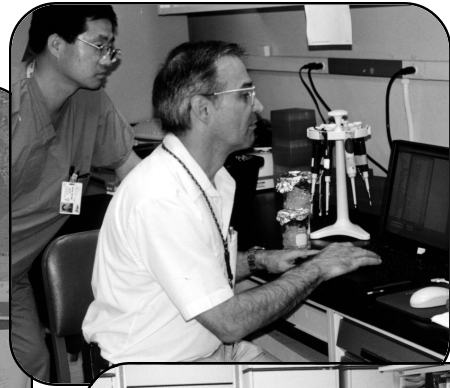
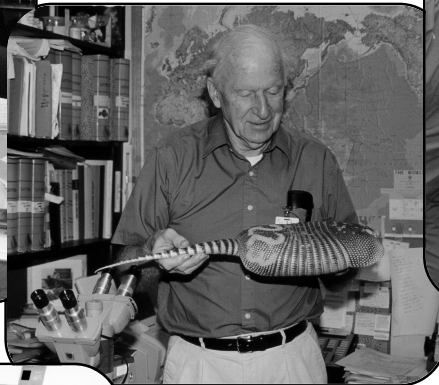
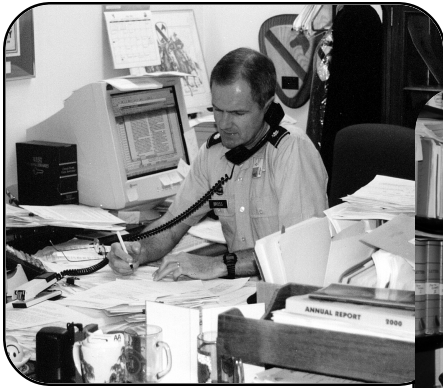
Florabel G. Mullick, MD, ScD, SES
Principal Deputy Director
Director, Center for Advanced Pathology

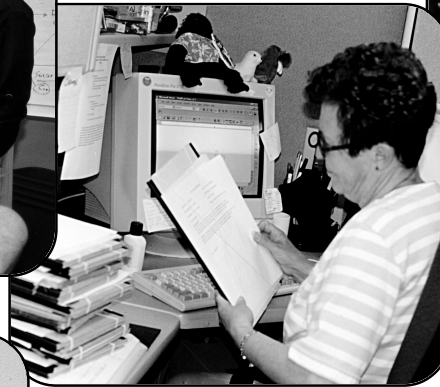
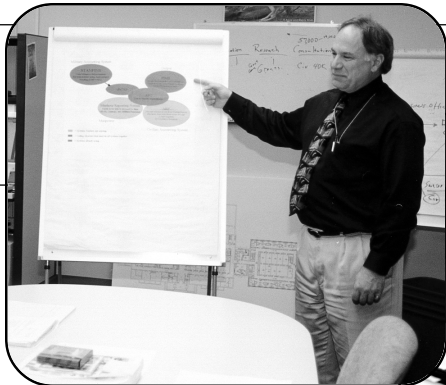
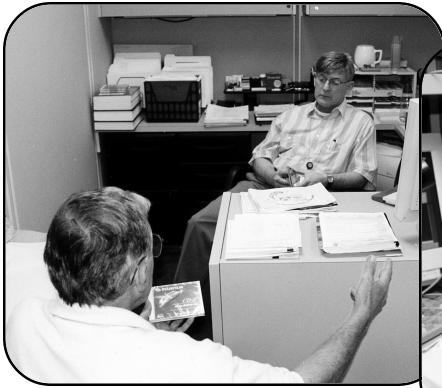
William Inskeep II, COL, VC, USA
Deputy Director, Army

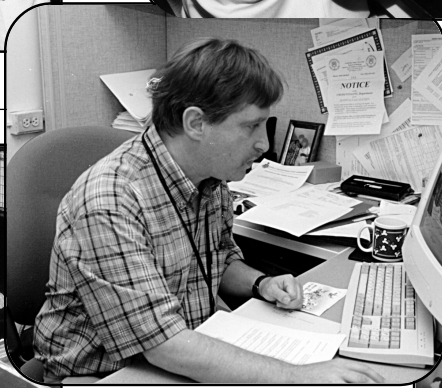
Charles W. Pemble III, Col, USAF, MC
Deputy Director, Air Force

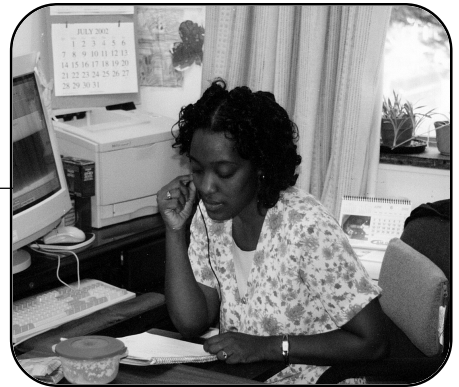
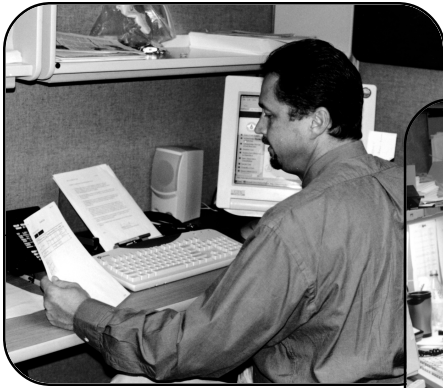
Adrianne Noe, PhD
Director, National Museum of Health and
Medicine, AFIP

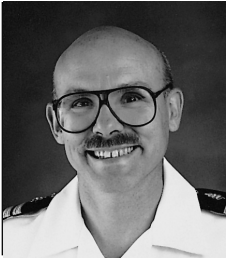
Donald West King, MD
Executive Director
American Registry of Pathology











Glenn N. Wagner, CAPT, MC, USN
The Director
Date of Appointment — 4 June 1999

○ ○ ○
○ ○ ○
○ ○ ○

Penny L. Rodriguez
Executive Administrator
Date of Appointment — November 1999

Tyrone Green, HMCS, USN
First Sergeant
Date of Appointment — May 1999

Gricelda E. Eralte, SGT, USA
Administrative Assistant

OFFICE OF THE DIRECTOR

MISSION

The mission of the Armed Forces Institute of Pathology (AFIP) (dictated in Public Law (94-361, 1976) is to provide pathology expertise in consultation, education, and research in medicine, dentistry, and veterinary medicine to the Armed Services and the American public, in partnership with the American Registry of Pathology (ARP). AFIP is the pathology reference center for the Departments of Defense and Veterans Affairs, and provides a wide range of products and services in partnership with the American Registry of Pathology. ARP, whose first registry was established in 1921, represents professional organizations sponsoring registries of pathology and allied health sciences at the AFIP. It is incorporated into the structure of the Institute's professional departments and elements.

The AFIP's strength stems from a foundational triad of world-class professional expertise, the national tissue repository and archive of over 3 million accessioned cases, and multiple collaborations in government, industry, and academia. This unique public/private partnership provides unprecedented health care delivery to a global constituency based on maximum access, quality, and cost containment. In 2001, the AFIP provided over 100,000 consultations, including 57,000 cases for second opinion, 25,000 Air Force PAP smears, and 10,000 cases received for risk management and utilization review. The Institute also provided over 500,000 hours of education and training, including 30,000 hours of continuing medical education. The AFIP's research and development efforts continued to grow, with over 300 approved protocols, a growing number of which were externally funded. Programs included research in basic science, environmental pathology and toxicology, geographic and infectious disease pathology, oncology, molecular diagnostics, and forensic science. All approved protocols have military relevance and civilian applications.

The AFIP is the largest Field Operating Agency (FOA) of the Army's Office of the Surgeon General. It is administered through a Directorate composed of the Director, Principal Deputy Director, and 2 service Deputy Directors appointed by the AFIP Board of Governors, chaired

by the Assistant Secretary of Defense for Health Affairs and representing the entire federal healthcare system. The Directorship rotates every 4 years between the Army, Navy, and Air Force. The service Deputy Directors represent the other 2 services as troop or element commanders, with duties as assigned. Florabel Mullick, MD, SES IV, Director of the Center for Advanced Pathology, is Principal Deputy Director. Charles W. Pemble III, Col, DC, USAF, is Deputy Director, Air Force. Adrienne Noe, PhD, Director of the National Museum of Health and Medicine, is Associate Director of the AFIP, and Lawrence E. Shaw, LTC, MS, USA is Chief of Staff for Administration.

The Directorate (including Associate Directors, Chief of Staff for Administration, and the Executive Director of the ARP, Dr. Donald King) constitutes the AFIP's Executive Steering Committee, supported by the Office of Legal Counsel, Office of Strategic Planning, and PAO and First Sergeant. The Office of the Director oversees the administration of the AFIP and its compliance with the authority and guidance of the Board of Governors and the Institute's executive agent, the US Army.

AFIP organizational elements that respond directly to the Office of the Director include the National Museum of Health and Medicine, Office of Clinical Laboratory Affairs, Office of Strategic Planning, Office of Legal Counsel, and the Joint Committee on Aviation Pathology (secretariat). Captain Wagner chairs the DoD Automated Central Tumor Registry Oversight Committee, the Joint Committee on Aviation Pathology (JCAP), and the Joint Laboratory Working Group.

CONSULTATION, EDUCATION, AND RESEARCH

Captain Wagner is credentialed and privileged in forensic pathology as a member of the Office of the Armed Forces Medical Examiner and Deputy Medical Examiner. He continues to provide requested consultations in forensic medicine, especially in pediatric pathology, aerospace pathology, and trauma biomechanics. He lectures widely on forensic issues and participates in the development of funded research protocols. Captain Wagner is an adjunct (clinical) professor of pathology at the Uniformed Services University of the Health Sciences, providing lectures on forensic medicine to the Departments of Military Medicine, Preventive Medicine, and Pathology. He continues to lecture at AFIP courses, particularly basic forensic sciences and anatomic review seminars.

GOALS

During 2001, the Institute expanded its strategic and business plan initiatives, with close oversight by its executive agency, OTSG. A number of business models as sources for alternate funding opportunities were examined. Today's health care delivery system is measured by access, quality, and cost. The AFIP is unique within the DoD in having global access to world populations, including DoD beneficiaries. The AFIP is well positioned to provide unique services and meet its mandates in public law as a pathology reference center. Services at the AFIP continue to represent the gold standard in quality, as demonstrated by the Institute's critical role in the identification of the victims of September 11, 2001, during Operation Noble Eagle.

Ongoing business initiatives are designed to capture accurate costs of doing business for strategic institutional positioning. The Institute's focus on business and health care delivery systems continues to be a direct result of mandates placed by DoD Program Decision Memoranda.

The AFIP provides a unique, relevant, and vital interface for the Department of Defense and the American public. Pathology is uniquely qualified as a specialty to bridge the basic sciences and clinical medicine. The depth of staff expertise, a huge tissue repository reflecting the health of the population, and numerous collaborations combine to form the special core competencies of the "People's Institute."



Stephen W. Bross, LTC, JA, USA
Legal Counsel
Date of Appointment — 3 July 1998



OFFICE OF LEGAL COUNSEL

MISSION

The Office of Legal Counsel is responsible for providing legal advice and assistance to the Director and staff of the AFIP.

STAFF

Stephen W. Bross, LTC, JA, USA, Legal Counsel
Penny L. Rodriguez, Legal Assistant (part-time)
SGT Gricelda E. Eralte, Legal Assistant (part-time)

ACCOMPLISHMENTS

In 2001, the Office of Legal Counsel provided the Director and staff of the AFIP with a broad range of legal services, including the following:

— The Legal Counsel provided a variety of services in response to the September 11th terrorist attacks. The initial requirement was to establish the Pentagon Reservation as an area of exclusive Federal legislative jurisdiction and convey this to the Virginia Chief Medical Examiner and the Attorney General's Office, to secure their agreement that the Armed Forces Medical Examiner had authority for the forensic investigation encompassing the victims of the attack. Various other issues arose in the days and weeks that followed: the acceptance of gifts of medical forensics supplies; the propriety of Institute publicizing of, and AFIP employee involvement in, the widespread charitable fundraising efforts, which occurred near in time to the annual CFC campaign; agreements with other Federal agencies for DNA profiling and bloodstain card services; the parameters for release of information concerning operations and identification of remains; access to DNA bloodstain cards from the Repository to identify remains of Reservists and others killed in New York and in operational areas; responses to subpoenas from Federal entities for anthrax research information; coordination of a material transfer agreement relative to urgent biodefense matters; proposals for collection of DNA specimens from DA and DoD civilian employees; and visit and access restrictions imposed by higher headquarters on foreign students.

— The Legal Counsel, in ongoing coordination and consultation with the Executive Committee and the American Registry of Pathology (ARP) and its counsel, performed the primary staff work related to the annual review of the September 2000 AFIP-ARP Memorandum of Understanding (MOU) pertaining to cooperative enterprises. This effort provided annexes for the National Museum of Health and Medicine and its proposed Museum Gift Shop, and for "fee-for-service" activities conducted in various departments that cannot be managed as conventional consultation cases. It also implemented recommendations of the Army General Counsel concerning gifts, clarified Privacy Act applicability to ARP and its employees as a contractor, provided a mechanism for receiving payments volunteered by outside sources for speaking activities by staff, and updated provisions for Distinguished Scientists in areas of liability, insurance, ethics, and conflicts of interest, among other changes.

— The Office of the Armed Forces Medical Examiner received substantial support on a variety of matters outside the scope of September 11, 2001, including the coordination of an agreement with the Department of Justice for consultation and testimony in a vaccine litigation case; extensive interaction with civilian counsel representing the family in the matter of a shipboard

suicide case, to challenge the Navy investigative findings; revision of an agreement with the Maryland Chief Medical Examiner for resident training; continued liaison to counsel representing the estates of victims of the Alaska Air disaster, who needed DNA profiles from our Economy Act victim-identification work to debunk the fraudulent claims of foreign interlopers alleging the existence of illegitimate children of some of the victims; continued assistance in updating and substantially revising an agreement for toxicology services between the Division of Forensic Toxicology and the District of Columbia Medical Examiner; continued advice on Section 1471 of Title 10, US Code, which clarifies and expands the Medical Examiner's forensic investigation authority, and other issues specific to Federal autopsies; and recurring support as liaison between the Medical Examiner and service judge advocates seeking expert forensic pathology advice and consultation for both the prosecution and defense, with the added complication of trying to support the defense without constraining Medical Examiner operations through the application of client privilege and confidentiality.

— The office coordinated numerous requests to interview and depose Institute staff in connection with private litigation, or to obtain patient information relevant to litigation, and represented Institute and DoD interests at such interviews and depositions while also advising the staff members providing the testimony. The office received and investigated a demand for damages from counsel in Florida for alleged delay in diagnosis and provided sufficient information to the servicing claims office to fully rebut the demand, showing it to have been inadequate coordination between the clinician and his reference laboratory. The office continued its involvement as liaison to the Army Litigation Division and the Department of Justice with regard to a medical malpractice tort claim that originated at Seymour-Johnson Air Force Base and has come to involve the Navy and Army as well. The matter also came to involve a separate, but related, lawsuit that spawned further litigation seeking the substitution of the United States for the contract employee named in the suit.

— The Legal Counsel served as a member of a panel on interactions with outside entities and intermediaries as part of the 2001 Acquisition, Logistics and Technology Conference, sponsored by the US Army Medical Research Acquisition Activity.

— As the Institute's designated agency ethics official and ethics counselor, the Legal Counsel provided ethics training, prepared written and oral opinions and advisory letters for the Institute leadership as well as for individual staff members, and also managed the financial disclosure reporting required of certain staff members under the Joint Ethics Regulation.

— The Legal Counsel continued to provide advice on several copyright, licensing, and nondisclosure issues. In connection with this work, the Legal Counsel continued to study the applicability of Federal cooperative research and development authorities to various Institute activities that are not clearly cooperative enterprises within the scope of our AFIP-ARP statutory authority, and laid the groundwork for receiving and managing that authority at the Institute in 2002.

— The Legal Counsel served as the Institute's liaison to military law enforcement and military justice authorities who regained military custody of an officer who deserted last year in the face of serious civilian criminal charges. He was convicted by general court-martial of desertion and turned over, following completion of his military sentence, to civilian authorities for further proceedings.

— The Legal Counsel provided routine legal advice and guidance on the day-to-day work of the Institute in such typical areas as memoranda of agreement with other agencies for provision or exchange of technical and/or educational services, as well as agreements with non-Federal and foreign entities pertaining to research, education, and training; requests by outside parties for access to patient records and tissues; civilian and military personnel administration, discipline, and investigations; offers by outside sources to pay travel expenses of employees; proposed revisions to Institute regulations; military administrative law matters; contract administration and procurement law matters; fiscal law matters, including the structure of reimbursable operations; and issues specific to the operation of the National Museum for Health and Medicine. Matters of note include advice on expectations of privacy in government e-mail to various parties; drafting support for a model agreement for use with outside entities wishing short-term observer training at the Institute for students or employees; guidance to staff and employees on financial privacy; and evolving study of the requirements of the regulations adopted to implement the Health Insurance Portability and Accountability Act of 1996.

The legal assistant is a notary public and is available to the Institute staff for all official business requiring notarization. Notary services are also provided to military personnel and their dependents for any legal matters requiring notarization.



Daniel R. Brown, Col, USAF, BSC
Director
Date of Appointment — 1 May 2000



CENTER FOR CLINICAL LABORATORY MEDICINE

MISSION

Directs the operation of the DoD Clinical Laboratory Improvement Program, as defined by DoD Instruction 6440.2 and Public Law 100-578 (Clinical Laboratory Improvement Act). Administers public law and federal policy for military medical laboratory operations in peace, contingency, and wartime, ensuring no restrictions or cessation of laboratory services that would impede DoD mission requirements. *Performs Regulatory Oversight:* Determines policy that provides guidance for all military medical laboratory operations in the DoD. Directs activities and funding of an operating budget of over \$3.5 million annually for office administration and component central contracts for medical laboratory proficiency testing, accreditation, and inspections. Resolves situations where public or state law is in conflict with DoD policy. Responds to congressional, military, or public inquiries relative to laboratory services. Reviews laboratory operations data to include proficiency testing, accreditation, and regulatory inspection results. Coordinates laboratory technical assistance and intervention strategies among DoD laboratories. *Performs Consultative Services:* Provides consultative services and impact analysis on clinical laboratory issues to the Director, Armed Forces Institute of Pathology (AFIP), to each service's Surgeon General, and to the Office of Assistant Secretary of Defense for Health Affairs. Provides professional and management guidance to DoD laboratory officers and enlisted members. Co-chairs the DoD Laboratory Joint Working Group (LJWG), and is gatekeeper for Tri-service and CDC initiatives, to develop a biological warfare detection and response system, ie, National Laboratory Response Network.

STAFF

Daniel R. Brown, Col, USAF, BSC, Director
R. Gregory Craigmiles, CAPT, MSC, USN, Associate Director
Forrest W. Kneisel, COL, MSC, USA, Associate Director
Judy Kendrick, SMSgt, USAF, Superintendent
Dennis A. Lahl, HMC, USN, LCPO
Reinaldo Rodriguez, SSG, USA, NCOIC

EDUCATION

Presentations and Seminars: The department presented 13 workshops or seminars encompassing 350 man-hours of departmental time, with approximately 1,000 attendees.

ACCOMPLISHMENTS

- The following are registration statistics as of December 31, 2001:
 - Army: (see print out) certificates with (see print out) sites
 - Navy: 505 certificates with 879 sites
 - Air Force: 439 certificates with 1,015 sites
- Developed CDC and Tri-Service Laboratory Response Network (LRN) partnership initiative: Col Brown (CCLM) cochaired a Tri-service working group that led to the establishment of a unified DoD approach to participation in the National Bioterrorism Laboratory

Response Network (NBLRN). CCLM was designated as the coordinating office for DoD participation in the NBLRN. The three service Surgeons General approved CCLM for this role through respective official memorandums. A CCLM gatekeeper is rotated among the services and selected annually during the TRICARE/LJWG meeting. Each new gatekeeper assumes duties at the following Society of Armed Forces Medical Laboratory Scientists meeting. The 2001 gatekeeper was COL Forrest Kneisel.

- The purpose of the LRN is to rapidly detect and identify biological threat agents, and to alert public health and law enforcement agencies of a suspected release to minimize exposure. At the conclusion of 2001, DoD had fielded 1 Level D, 2 Level C, 8 Level B, and 82 Level A LRN laboratories throughout most of the 50 states. Ongoing actions focus on adding Level B and C sites and developing a Proficiency Testing Program.
- Established the Overseas Bioterrorism Laboratory Response Network (LRN). CAPT Gregory Craigmiles is the overseas LRN gatekeeper. Initial actions, currently ongoing, are to assess host countries' and overseas military labs' bioterrorism capabilities, and to develop options to provide LRN support to overseas military forces.
- This office saves over \$1 million annually in registration and inspection fees. We have avoided in excess of \$6 million in fees to the Health Care Financing Administration since inception of the program in 1993.
- Proficiency Testing (PT): All registered laboratories performing moderate- and/or high-complexity procedures were enrolled in centralized service-specific contracts during 2001. CCLM reviewed over 8,200 PT surveys. There were approximately 100 testing events out of 24,000 where labs performed unsatisfactorily, and CCLM required review of corrective actions taken.
- Accreditation: DoD laboratory facilities are accredited by the College of American Pathologists (CAP), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), or the Commission on Office Laboratory Accreditation (COLA). Each facility is inspected every 2 years, and results of inspections are forwarded to CCLM for review.
- Laboratory Joint Working Group (LJWG): The center cochairs and facilitates this committee consisting of service laboratory medicine and pathology consultants, health affairs representatives, and an appointed laboratory representative from each TRICARE region. The LJWG facilitated DoD-wide laboratory consolidation and other initiatives to reduce reference laboratory, reagent, and utilization costs. Over \$26 million in savings was reported. Center personnel are members of these subcommittees: enrollment-based capitation, cytology consolidation, cost-accounting software, DoD benchmarking for laboratories, CHCS interconnectivity, and reference lab consolidation.
- Laboratory Composite Health Care System (CHCS) Interconnectivity: The center participated in an ongoing working group to establish requirements and initiate the contracting process for achieving laboratory CHCS interconnectivity between DoD facilities, DoD and VA facilities, and DoD and civilian reference laboratories. The project was funded at \$2.5 million by OASD (HA).
- DoD Laboratory Standard File Committee: The center chairs the committee that maintains and updates the Laboratory Standard File in CHCS. The standard file contains the approved test name nomenclature and logical observation identifier names and codes (LOINC) to be used for host-to-host communication as part of the DoD laboratory interconnectivity project. The committee provides periodic standard file updates to the CHCS contractor for implementation, and also maintains the current version on the Office of Clinical Laboratory Affairs Web page.
- Participated in the laboratory design project to develop suitable standardized laboratories for installation in hospitals of all sizes.
- Aided the development of a DoD Blood Program strategic plan to consolidate 50% of the blood program infrastructure.
- Participated in a joint panel sponsored by the Joint Readiness Clinical Advisory Board, to review and update laboratory equipment and supplies used in the deployable medical platforms.
- Expediently notified all DoD laboratories and service logistics centers of reagent manufacturing and equipment problems during the past year.

PRESENTATIONS

1. February 23, 2001: Washington, DC, Laboratory Joint Working Group, "Global Laboratory Information Transfer, CHCS Clinical Laboratory/APCOTS Migration, and Application Service Providers," T Robillard, RG Craigmiles.
2. February 23-24, 2001: Washington, DC, Laboratory Joint Working Group, "National Laboratory Response Network," BH Mapp.
3. April 8-12, 2001: San Antonio, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "State of the USAF Laboratory Career Field," "How to Ace Your College of American Pathologist Inspection," and "Current AF Laboratory Management Issues," DR Brown, BH Mapp, S Wilson.
4. April 9, 2001: Houston, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "President's Address, Opening Ceremonies," RG Craigmiles.
5. April 10, 2001: Houston, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "Laboratory Response Network," F Kneisel, et al.
6. April 11, 2001: Houston, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "Specialty Leader Update," RG Craigmiles.
7. April 11, 2001: Houston, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "Biomedical Laboratory Consultant's Update to USAF Laboratory Officers," D Brown, D Hindelang.
8. April 11, 2001: Houston, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "Just the FAQs about OCLA," D Lahl, R Rodriguez.
9. May 15-16, 2001: Sheppard AFB, Tex, Biomedical Officer Management Orientation Course, "The Ins and Outs of Workload Recording," "Clinical Laboratory Management Indicators," "Laboratory Joint Working Group," "Laboratory Standard Cost Methodology," "Downsizing: A Model to Help you Cope," and "Management Topics," DR Brown, BH Mapp.
10. May 22, 2001: Bureau of Medicine and Surgery, Director of the Medical Service Corps, "Medical Technology Focused Review," RG Craigmiles.
11. August 15-16, 2001: Fort Lewis, Washington, Laboratory Joint Working Group "Interactive Composite Healthcare System Lab Training CBT-CDROM," BH Mapp.
12. August 15, 2001: Fort Lewis, Washington, Laboratory Joint Working Group, "Laboratory Standard File Update," RG Craigmiles.
13. October 17-18, 2001: USAF Surgeon General, AFMS Anthrax Identification and Deployment to New York City, DR Brown.

PUBLICATIONS

Other Publications

1. Craigmiles RG. President's message. *Society Scope*. Winter 2001;4:1. Society of Armed Forces Medical Laboratory Scientists Newsletter.
2. Craigmiles RG. Consultant's corner. *Society Scope*. Spring 2001;4:2. Society of Armed Forces Medical Laboratory Scientists Newsletter.
3. Brown D, Wilson S, eds. *The Sum of All Fear: A Compendium of Laboratory Management Topics and Issues*. 6th and 7th eds. 2001. Self-published.
4. Brown RD. *Leveraging Advances in Biotechnology and Medical Informatics to Improve Homeland Bio-defense Capabilities*. Bioterrorism Report 2001.



Bailey H. Mapp, Maj, USAF, BSC
Deputy Director



OFFICE OF LABORATORY MANAGEMENT

MISSION

Provides laboratory support services to DoD clinical laboratories, histopathology centers, and cytopathology centers through the Director, AFIP. Serves as secretariat for the DoD LJWG. Provides updates to Current Procedural Terminology (CPT) coding for laboratories within DoD, to include determining code ownership, assigning complexity values, and establishing print names. CPT is used for determining third party reimbursement, reporting laboratory output/workload, and in enrollment-based capitation. Advisor for the DoD and Air Force histopathology technician training program at AFIP. Action officer to the Air Force pathology consultant and the Air Force associate chief, Biomedical Sciences Corps, Biomedical Laboratory. Assists in advising AF SG on Air Force manpower standard for clinical laboratories, histopathology centers, and cytopathology centers. Reviews Air Force operations data, to include proficiency testing, accreditation, and regulatory inspection results. Reviews equipment requests submitted by Air Force laboratories. Reviews productivity, utilization, and cost-effectiveness data for Air Force laboratories, and makes recommendations for improvement and benchmarking. Directs the Clinical Laboratory Management Indicator (CLMI) Program, which provides for organizational workload and productivity comparison and benchmarking activities. Provides professional and management guidance to Air Force laboratory officers and enlisted personnel.

STAFF

Bailey H. Mapp, Maj, USAF, BSC, Deputy Director
Yvonne E. Byrd, TSgt, USAF, NCOIC

EDUCATION

Presentations and Seminars: The department presented 4 workshops or seminars encompassing 128 man-hours of departmental time, with approximately 200 attendees.

ACCOMPLISHMENTS

- **Laboratory Joint Working Group (LJWG):** The Office of Laboratory Management (OLM) acts as facilitator and recorder for this committee consisting of service laboratory medicine and pathology consultants, Health Affairs representatives, and an appointed laboratory representative from each TRICARE region. The LJWG facilitated DoD-wide initiatives to reduce reference laboratory, reagent, and utilization costs through centralized contracts. Over \$46 million in savings were reported through 2001. OLM personnel are members of these subcommittees: enrollment-based capitation, cytology consolidation, cost accounting, DoD benchmarking for laboratories, CHCS interconnectivity, cytology reference lab consolidation, and reference lab consolidation.
- **Clinical Laboratory Management Indicators (CLMI):** Initiated enhancements to the Air Force program that provides organizational comparison and benchmarking activities. Using this objective and verifiable data, built a staffing model based upon production (laboratory reportable tests), the most consistently reliable indicator of laboratory business. Numerous manpower and personnel experts hailed this effort as a benchmark

in the medical area planning and programming process. This formula is now under review for DoD-wide incorporation.

- Biological Augmentation Teams: Assisted in development of a computer-based training program designed to introduce personnel to the laboratory's role in bioterrorism. The program also provides procedural guidance and instruction to members of the Air Force's Biological Augmentation Teams in a field environment.
- Authored paper for Federal Advisory Committee - Healthcare Quality Initiatives Review Panel (HQIRP). Written at the request of the HQIRP, this paper disputes allegations of the inferiority of military laboratory standards. The panel declared the allegations to have no basis in fact.
- Leveraging Technology: Redesigned AF Medical Readiness home page on the WWW, providing a quick resource for medical readiness issues to AF and DoD laboratorians.
- Laboratory Composite Health Care System (CHCS) Interconnectivity: Participated on an ongoing working group to establish requirements and initiate the contracting process for achieving laboratory CHCS interconnectivity between DoD facilities, DoD and VA facilities, and DoD and civilian reference laboratories. The project was funded at \$2.5 million by OASD (HA). Alpha testing is currently underway, with projected deployment by 2002.
- Laboratory Response Network: Participated on a Joint Task Force working group to develop a biological warfare detection policy, key to force protection. The result is full DoD participation in the Laboratory Response Network. This is a Centers for Disease Control (CDC)-sponsored network designed to ensure timely identification of biological warfare agents.
- Current Procedural Terminology (CPT): Provided updates to CPT coding for laboratories within DoD, to include determining code ownership, assigning complexity values, and establishing print names. CPT is used for determining third-party reimbursement, reporting laboratory output/workload, and in enrollment-based capitation.
- Maj Mapp served as editor of the Society of Armed Forces Medical Laboratory Scientists newsletter, *Society Scope*, 4 issues distributed to over 600 society members.
- Recording secretary for the monthly Video Teleconferences (VTC) for AF MAJCOM laboratory consultants; a forum to facilitate communication and strategic planning for the Air Force laboratory community.

PRESENTATIONS

1. February 23-24, 2001: Washington, DC, Laboratory Joint Working Group, "National Laboratory Response Network," BH Mapp.
2. April 8-12, 2001: San Antonio, Tex, Society of Armed Forces Medical Laboratory Scientists Meeting, "How to Ace Your College of American Pathologists Inspection," and "Current AF Laboratory Management Issues," BH Mapp, S Wilson.
3. May 15-16, 2001: Sheppard AFB, Tex, Biomedical Officer Management Orientation Course, "The Ins and Outs of Workload Recording," "Clinical Laboratory Management Indicators," "Laboratory Joint Working Group," "Laboratory Standard Cost Methodology," "Downsizing: A Model to Help you Cope," and "Management Topics," BH Mapp.
4. August 15-16, 2001: Fort Lewis, Washington, Laboratory Joint Working Group "Interactive Composite Healthcare System Lab Training CBT-CDROM," BH Mapp.

PUBLICATIONS

1. Mapp BH, ed. *Society Scope*. Spring, Summer, Fall Winter 2001. Society of Armed Forces Medical Laboratory Scientists Publication.
2. Wilson S, Mapp B. White Paper for Federal Advisory Committee - Healthcare Quality Initiatives Review Panel (HQIRP). DoD Laboratory Standards.



Paul Bluteau, MA
Director
Date of Appointment—23 January
2001



OFFICE OF STRATEGIC PLANNING

MISSION

The Office of Strategic Planning assists the AFIP leadership in areas of strategic planning for improved performance and master facility planning. The staff supports the Director and the Principal Deputy Director of the Armed Forces Institute of Pathology by:

1. Developing and implementing a strategic plan.
2. Formulating and advising on the implementation of an annual business plan and supporting implementation of reengineering strategies within AFIP.
3. Coordinating and integrating performance improvement throughout the Institute.
4. Reviewing current budgetary and resource management systems, identifying areas for improvement and reengineering, and assisting in the development and implementation of a new resource management and budget process for AFIP.
5. Facilitating and overseeing reengineering activities that support pathology consultation, education, and research within AFIP.
6. Advising the Executive Committee on key issues affecting pathology consultation, education, and research with AFIP.
7. Identifying opportunities for growth and developing marketing strategies.
8. Coordinating the Master Plan for renovation and new construction.
9. Serving as the office of primary responsibility to the Surgeons General, the Secretary of Army, and the Assistant Secretary of Defense for Health Affairs in all matters pertinent to AFIP.
10. Coordinating and monitoring DoD Inspector General audit reports for administration and management, and for control over case-related materials.

ORGANIZATION

The Office of Strategic Planning (OSP) staff is divided into executive strategic planners and an administrative analyst.

STAFF

Paul Bluteau, MA, Director
James Staiger, MD, Senior Strategic Planner
Mike Nola, PhD, Senior Resource Analyst
Cheryl Colbert, Administrative Analyst

ACCOMPLISHMENTS/IMPACT

1. OSP continued the strategic planning efforts utilizing the established teams of Consultation, Personnel Development, Collaborations, Case Management, and Facilities. OSP prepared a review of the annual strategic planning reports for the Director, and converted the Facilities Committee into Master Planning-New Facility, Building. 54 Renovation, and AFIP Facility Immediate Needs subcommittees. In addition, the Strategic Planning committees revised their charters and membership, and presented the status of their work and goals to the Executive Committee.
2. OSP led the Institute through strategic planning to a Balance Scorecard Performance

Measurement Methodology via an off-site conference with the Executive Committee in May 2001. AFIP's mission and goals were validated and incorporated into the Balanced Scorecard. OSP planned, coordinated, and facilitated a working group of key staff members in updating and redefining the AFIP vision statement.

3. Master planning efforts continued, in 2001, towards insertion of funds into DoD's Program Objective Memorandum for military construction of a new AFIP facility with continued renovation of Building 54, or acceptance of the ARP's build-lease proposal for a new building. OSP supported WRAMC-Department of Public Works, Army Corps of Engineers, Health Facilities Planning Agency; contracted architectural/engineering firms to include Main Section Master Plan, Urban Design Framework, and Section 106 Report; and served as liaison to HFPA and the Department of the Army in support of obtaining funds for a new building.

OSP met with GSA staff and the lead architect of the National Institutes of Health, concerning alternative methods of financing a new AFIP facility. Resulting from ARP lobbying efforts, OSP responded, through the Department of the Army, Office of Congressional Legislative Liaison, to many congressional and senatorial inquiries about the need for a new facility, as well as additional leased space for current programs in the Gillette building. OSP presented 12 briefings to Mr. P. T. Henry, ASA (M&RA), OTSG, and the Board of Governors concerning the need for a new facility.

4. OSP coordinated Institute actions throughout the year in response to executive level initiatives and command programs, and authored reports sent to the Office of the Surgeon General (OTSG), the Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA (M&RA)), Department of Defense (Health Affairs) (DoD (HA)), the Board of Governors, and several DoD-level agencies. OSP also prepared and gave briefings to OTSG, DoD (HA), and ASA (M&RA) regarding the Institute's consultation and Pathology Information Management (PIMS) systems, as well as the progress made in updating the AFIP/ARP Memorandum of Understanding, contracting, and administrative procedures. OSP often supported performance-improvement activities within AFIP, serving as consultant or active participant (internal consultation computer system (PIMS)), reviewing business practices in various areas of the Institute and TDA revision, and filling vacant Navy Medical Service Corps and Medical Corp billets.
5. In parallel with the above programs, OSP continued AFIP Reengineering-Performance Improvement efforts in consultation and education. Working closely with OTSG, several reports were prepared describing internal savings realized through Institute efforts and acquisition of external funds through consultation, education, and research. Historical demographic data related to consultation cases and educational courses were collected and analyzed, which assessed current status and supported future decisions related to consultation and educational programs. Several reports and 6 briefings were presented to the Tri-service Reengineering Committee and Board of Governors, relaying the Institute's progress and continuing plans in response to the 1998 Program Decision Memorandum directing the AFIP to collect full reimbursement for its services.
6. OSP staff served as advisors to the Director, Principle Deputy Director, and the Executive Committee. In that capacity, the office prepared and gave multiple presentations to the Board of Governors, the Scientific Advisory Board, American Registry of Pathology board members, OTSG, ASA (M&RA), HFPA, and several DoD-level agencies related to OSP and AFIP functions and programs.

7. Additional specific staff accomplishments:

Attended AFIP Safety training

Consulted in review of Command Climate Survey results and recommendations formulation, and developed follow-up matrix for Command Climate Survey recommendations

Attended Consultation Committee meeting ad hoc

Site visit: Forest Glen repository buildings

Site visit: Gillette facility

Drafted updated OSP mission statement for Manpower Assessment Team

Assisted data gathering for Manpower Assessment Team

Brainstormed for improved business practice initiatives

Attended Dr. King's conference call to AFIP and ARP Board of Directors
 Attended activity-based accounting meeting with AFDIL staff at Gillette
 Reviewed several previous studies, eg, step-down accounting study, CAN, DoD and DoDI drafts, Dr. Bumgarner report
 Participated in Council of Colonels report data collection and editing, and orchestrated OSP/Director Center for Advance Pathology meetings with each department chair
 Formal business networking: Health Affairs, BUMED, VA
 AFIP Balanced Scorecard implementation
 Participated in the AMEDD Directors Balanced Scorecard seminar
 Provided Balanced Scorecard briefings: OSP, Executive Committee, Information Management Support Council
 Cofacilitated/recorded Executive Committee offsite for Balanced Scorecard planning
 Prepared AFIP Balanced Scorecard draft and updates.
 Prepared monthly Executive Committee strategic planning agenda
 Drafted AFIP input to Info Paper: DoD/Army collaborative efforts with CDC
 Drafted update to Awards Committee charter

External Support Provided:

The OSP administrative analyst provides administrative support to various departments within the Institute and to Walter Reed Army Medical Center, including the Office of Public Affairs, the AFIP and WRAMC EO/EEO Programs, Facilities Space Management Office, the Chief of Staff, and the Director, AFIP.

Collaborations:

1. Participated in negotiation session with the VA
2. Participated in discussions with the Jackson Foundation
3. Rendered statistical advice to the Climate Survey Committee
4. Rendered statistical advice to the Department of Medical Education
5. Assisted with data gathering for the Manpower Team
6. Initiated business discussions with NIH; Caderock; Howard University; and University of Maryland Baltimore, College Park, and University College
7. Participated in preliminary discussion regarding ICD coding implementation
8. Participated in meeting with KPMG, regarding prospective contract
9. Participated in meeting with IMC, regarding statement of objectives and work for APC coding

Committees:

Paul E. Bluteau

1. Chair, Master Planning Committee
2. Member, Facilities Committee
3. Member, Consultative Committee
4. Accession Implementation Team Facilitator
5. Member, ASD (HA) Council of Colonels
6. Member, ASD (HA) Council of Deputies

James L. Staiger

1. Facilitator/recorder, weekly Executive Committee Strategic Planning Thursday meetings
2. Recorder, Monday/Wednesday Directors' Executive meetings
3. Facilitator/recorder/member, Collaborations Committee
4. Facilitator/recorder/member, Personnel Development Committee
5. Facilitator/recorder/member, HIPPA Compliance Committee
6. Facilitator/recorder/member, Information Management Support Council
7. Member, Recurring Data Elements Subcommittee
8. Member, Personnel Performance Standards Implementation Subcommittee

Mike F. Nola

1. Chair, Resource Advisory Council
2. Member, Collaboration Committee
3. Member, Recurrent Data Requirements Subcommittee
4. Member, Visual Illustrations Steering Committee
5. Member, Executive Committee

Cheryl D. Colbert

1. Member, AFIP EO/EEO Program
2. Member, Walter Reed Army Medical Center EEO Program

Continuing Education:

James L. Staiger

1. Government Performance Measurement: implementing the Balanced Scorecard, April 2001
2. Future Realities in Healthcare, DoD (HA) Conference, May 21, 2001
3. Ninth Annual Mood and Anxiety Disorders Conference, The Human Genome: Sequencing Psychiatry, Georgetown University Hospital, October 27, 2001
4. Department of Psychiatry, USUHS/Clinical Assistant Professor
5. Memberships in American College of Physicians Executives, Association of Military Surgeons of United States, and American Society for Quality

Mike F. Nola

1. Controllers Workshop, September 20-21, 2001
2. Dr. William Rowley's Future Realities in Healthcare Seminar, May 21, 2001
3. AFIP's Wednesday Medical Lectures
4. CHCS2, at Walter Reed Army Medical Center, November 29, 2001

Cheryl D. Colbert

Department of the Army, Equal Employment Opportunity Counselor Course, June 11-15 2001

PRESENTATIONS

1. Council of Colonels
2. Office of Surgeons General (3 to 4)
3. Scientific Advisory Board (2)
4. Facilitated Vision Work Group, July 26, 2001
5. Facilitated Working Groups at LTG Peake's Millennium Conference, December 5-6, 2001
6. Facilitated Environmental and Toxicological Department Seminar, December 11, 2001
7. Presented monthly Resource Advisory Council updates to the Executive Committee
8. Presented proposal for a Sponsored Programs Office to the Executive Committee
9. Presented proposal for Decentralized Business Model to the Executive Committee
10. Briefed department chairs' meetings
11. Participated in conference telephone discussion with ARP Board
12. Presented report on feasibility of cytotech hires to the Principal Deputy Director
13. Presented Agreement of Code Report to the Director
14. Facilitated 8 departmental Strategic Planning Sessions, Eisenhower Conference Center, WRAMC Campus, Washington, DC
15. Presented AFIP Master Planning to the WRAMC/Washington, DC community, Fine Arms Commission, National Capital Planning Commission, Society for Historical Preservation, WRAMC-DPW, HFP, ACOE
16. Presented to the Reengineering Committee, OTSG, Falls Church, VA
17. Prepared information papers and presented to the Board of Governors: AFIP Strategic Planning Update, AFIP Reengineering Activities, Performance Improvement Initiatives, Master Planning for a New AFIP Facility and the WRAMC Campus, AFIP Short-term and Long-term Renovation

CENTER FOR ADVANCED PATHOLOGY



Florabel G. Mullick, MD, ScD, SES, Director, CAP

CAP OPERATIONS

1

GROUP 1 — MUSCULOSKELETAL & REPRODUCTIVE DISEASES

Dermatopathology
Genitourinary Pathology
Gynecologic and Breast Pathology
Orthopedic Pathology
Soft Tissue Pathology

2

GROUP 2 — HEART, LUNG & AERODIGESTIVE DISEASES

Cardiovascular Pathology
Endocrine and Otorhinolaryngic/Head-Neck Pathology
Hepatic and Gastrointestinal Pathology
Oral and Maxillofacial Pathology
Pulmonary and Mediastinal Pathology

3

GROUP 3 — SPECIAL LABORATORY MEDICINE

Cellular Pathology and Genetics
Hematopathology
Neuropathology and Ophthalmic Pathology
Scientific Laboratories

4

GROUP 4 — ENVIRONMENTAL MEDICINE

Environmental and Toxicologic Pathology
Infectious and Parasitic Diseases Pathology
Radiologic Pathology
Veterinary Pathology

5

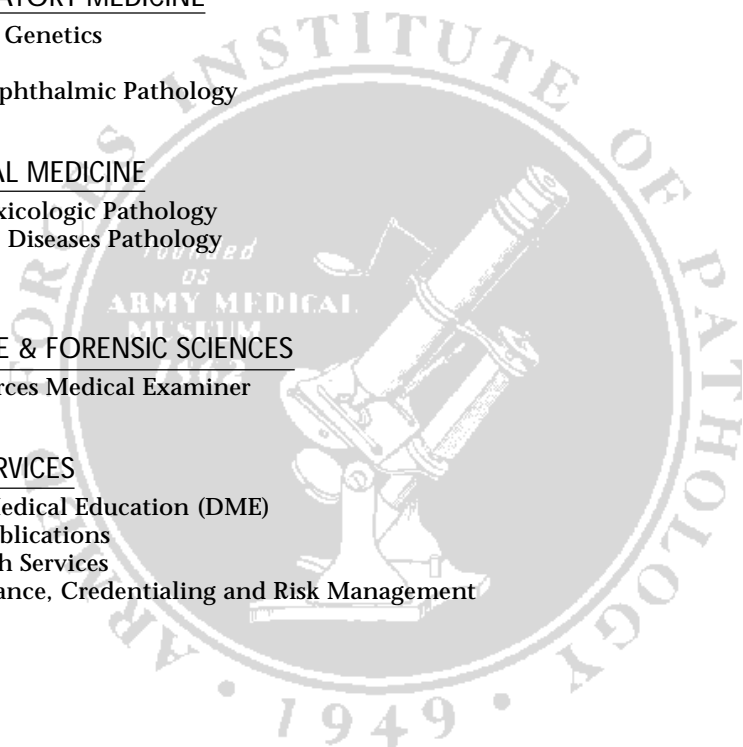
GROUP 5 — LEGAL MEDICINE & FORENSIC SCIENCES

Office of the Armed Forces Medical Examiner
Legal Medicine

6

GROUP 6 — SPECIALIZED SERVICES

Center for Advanced Medical Education (DME)
Center for Scientific Publications
Repository and Research Services
Office of Quality Assurance, Credentialing and Risk Management
Telemedicine





Florabel G. Mullick, MD, ScD, SES
Director



CENTER FOR ADVANCED PATHOLOGY

OFFICE OF THE DIRECTOR

MISSION/ORGANIZATION

The Office of the Director oversees and coordinates the general activities of the Center for Advanced Pathology (CAP) and provides policy and scientific direction to the 25 separate and distinct departments of which it is comprised: Armed Forces Medical Examiner; Department of Cardiovascular Pathology; Department of Cellular Pathology and Genetics; Department of Dermatopathology; Department of Environmental and Toxicologic Pathology; Department of Genitourinary Pathology; Department of Gynecologic and Breast Pathology; Department of Hematopathology; Department of Hepatic and Gastrointestinal Pathology; Department of Infectious and Parasitic Diseases Pathology; Department of Legal Medicine; Department of Neuropathology and Ophthalmic Pathology; Department of Oral and Maxillofacial Pathology; Department of Orthopedic Pathology; Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology; Department of Pulmonary and Mediastinal Pathology; Department of Radiologic Pathology; Department of Scientific Laboratories; Department of Soft Tissue Pathology; Department of Veterinary Pathology; Department of Telemedicine; Department of Medical Education; Department of Repository and Research Services; Department of Credentialing, Quality Assurance and Risk Management; and the Center for Scientific Publications.

STAFF

James Affonco, MA, Chief of Staff
Joseph P. Jensen, MPA, Administrator
Ridgely L. Rabold, AAS, Executive Assistant
Carlos H. Moran, MS, Executive Assistant
Hilda P. Elescano, Administrative Assistant

SUMMARY AND OVERVIEW

As the events of 2001 unfolded, AFIP encountered many unexpected challenges. The horrific and tragic assault on America clearly demonstrated the Institute's ability to respond quickly and decisively to an emergency of national proportions. Many of the other challenges we faced in 2001, however, were similar to those we faced in 2000. Reengineering and restructuring to improve quality, increase revenues, and insure better business practices continued to be addressed. By executing a proven strategy, we met those challenges while laying a strong foundation for the future.

As we have learned, no single strategy can guide and drive the actions of a global organization today. The world is too complex, too changeable, too diverse. Better business practices in an environment of strong scientific innovation is our ultimate goal, while the ability to take action at the right time, and the skill to react, adapt to, and manage change provide the winning ingredients to successfully achieve that goal.

We remain convinced we have the right strategy in place for a world-class, top-tier scientific organization. We are focused on turning cutting-edge science into breakthrough techniques

and methodologies, supporting them through targeted and well-executed marketing, and improving our operational efficiency. In addition to investing in our internal infrastructure, our efforts also include a continuing, intense focus on our customers' needs and satisfaction.

Our corporate values – honesty, loyalty, service, teamwork, innovation, excellence and community – continue to guide our actions and provide an ethical and philosophical foundation for everything we do. Of the foregoing, honesty is the hallmark of all our business practices. Our success is directly linked to these core values.

IT'S ALL ABOUT PEOPLE. Our ability to respond to all the needs of varied emergent situations depends on the many talents and experiences of our multicultural workforce. We value this diversity - and seek to foster it. When employees with different perspectives work together to offer solutions to the many challenges that science and the times present, it sparks innovation.

At all levels, AFIP employees are called upon to think creatively, effectively, and with confidence to meet the Institute's objectives. Our human resources play a key role in designing and implementing strategies to impact the changing business environment in which we currently find ourselves, enabling the Institute to maintain its top-level position over the long-term.

The Institute continues to focus on enhancing its leadership capability. Many of our innovative programs are team-based, aimed at strengthening team ability to achieve successful outcomes. Others focus more on the individual. A core goal for each Institute leader is to foster a work environment that brings out the best in employees and allows them to achieve their full potential.

In the subsequent sections of this book, devoted to individual departmental accomplishments, you will witness the results of our renewed focus and the commitment of our dedicated people, whose contributions and skills have been central to the record-setting achievements of 2001 and continue to provide a hopeful view of the future. It is through these 25 CAP departments we are able to achieve the high level of response in all types of situations. We stand ready as the "9-1-1" hotline for the Department of Defense.

ACTIVITIES OF THE DIRECTOR, CAP

Deployments:

1. January 29 - February 3, 2001, Chair, Presidential Advisory Committee Meeting, San Juan, PR.
2. February 23, 2001, presented a lecture to the medical students, Uniformed Services University of the Health Sciences, Bethesda, Md.
3. March 2-9, 2001, attended the 90th annual meeting of the United States and Canadian Academy of Pathology and participated in the Executive Meetings of the International Academy of Pathology, Atlanta, Ga.
4. March 27-30, 2001, presented a lecture to medical students at the University of Puerto Rico, San Juan, PR.
5. April 17, 2001, presented a lecture to the medical students at the Georgetown University, Washington, DC.
6. April 26-27, 2001, Chair, Model Institutions for Excellence Project at the Metropolitan University, San Juan, PR.
7. May 1-5, 2001, participated in the Mexican National Congress of Pathology, Acapulco, Mexico.
8. May 25-30, 2001, participated as a member of the Presidential Advisory Board, Ana G. Mendez University System, San Juan, PR.
9. June 24-29, 2001, served as Course Director and member of the Diagnostic Surgical Pathology Course, Milan, Italy.
10. July 25-27, 2001, participated as an instructor in the Workshop on Toxic Metals for the Venezuelan Congress of Pathology, Caracas, Venezuela.
11. September 3-6, 2001, participated in the official site visit for the XXVI International Congress of the International Academy of Pathology, Montreal, Canada.
12. September 9-11, 2001, participated as Codirector of a joint symposium presented at the 18th European Congress of Pathology, Berlin, Germany
13. September 18-19, 2001, participated at the Armed Forces Epidemiological Board Meeting,

Bethesda, Md.

14. October 11-12, 2001, participated in a meeting of the Retention Committee of the Metropolitan University of the Ana G. Mendez University System, San Juan, PR.
15. October 18-19, 2001, participated in Model Institutions for Excellence Project at the Metropolitan University, San Juan, PR.
16. October 31 - November 2, 2001, participated as a member of the Presidential Advisory Board for the Ana G. Mendez University System, San Juan, PR.
17. November 11-12, 2001, participated as a member of the Mars Sample-Handling Protocol Oversight and Review Committee, New York, NY.

Departmental Inspections/Visits:

1. Legal Medicine - January 17, 2001
2. Endocrine Pathology - January 23, 2001
3. Hematopathology - January 24, 2001
4. Veterinary Pathology - February 07, 2001
5. Hepatic & Gastrointestinal Pathology - February 14, 2001
6. Soft Tissue Pathology - March 14, 2001
7. Genitourinary Pathology - March 21, 2001
8. Repository and Research Services - April 11, 2001
9. Radiologic Pathology - April 18, 2001
10. Scientific Laboratories - April 23, 2001
11. Armed Forces Medical Examiner - May 09, 2001
12. Scientific Publications - May 16, 2001
13. Orthopedic Pathology - May 22, 2001
14. GYN and Breast Pathology - June 05, 2001
15. Dermatopathology - June 12, 2001
16. Telemedicine - June 13, 2001
17. Neuropathology and Ophthalmic Pathology - June 18, 2001
18. Cardiovascular Pathology - July 11, 2001
19. Environmental Pathology - July 18, 2001
20. Infectious Disease - August 01, 2001
21. Cellular and Genetic - August 27, 2001
22. Pulmonary Pathology - October 03, 2001
23. Oral Pathology - November 20, 2001

External Representation:

1. Cochair, Editorial Board, Armed Forces Institute of Pathology
2. HIV Coordinator for the United States Army's Retrovirus Group at the Armed Forces Institute of Pathology
3. Director, AIDS Program, Armed Forces Institute of Pathology
4. Department of Defense Representative to the National Advisory Environmental Health Sciences Council, National Institute of Environmental Health Sciences, Chapel Hill, North Carolina
5. Armed Forces Institute of Pathology representative to Armed Forces Epidemiology Board, Department of Defense (Health Affairs), Washington, DC
6. Editorial Reviewer:

Annals of Internal Medicine

Gastroenterology

Hepatology

Modern Pathology

Electronic Journal of Pathology and Histology

Annals of Diagnostic Pathology

Toxicologic Pathology

Patologia: Revista Latinoamericana

7. Member, Mars Sample Hazard Protocol Oversight and Review Committee, National Aeronautics and Space Administration
8. Member, External Advisory Committee, Center for Environmental Health, Jackson State University
9. Member, International Geological Correlation Program in Medical Geology, International Union of Geological Sciences and UNESCO
10. Member, Research Center for Minority Institutions, Metropolitan University, Ponce, Puerto Rico
11. Chair, National Science Foundation's Model Institutions for Excellence Advisory Board, Ana G. Mendez University System
12. Chair, Task Force for National Science Foundation's Science and Technology Alliance, Ana G. Mendez University System
13. Member, Scientific Advisory Board, FindCancerExperts.com, the patient Web resource for accurate cancer diagnosis
14. Chair, Presidential Advisory Board, Ana G. Mendez University System

Other Representations:

1. Hispanic Employment Manager, Armed Forces Institute of Pathology, Washington, DC
2. Consultant, Equal Employment Opportunity, Armed Forces Institute of Pathology, Washington, DC
3. Member, Search Committee, Armed Forces Institute of Pathology, Washington, DC
4. Member, Ash Library Committee, Armed Forces Institute of Pathology, Washington, DC
5. Member, Executive Committee, Armed Forces Institute of Pathology
6. Member, Education Committee, Armed Forces Institute of Pathology, Washington, DC
7. Chair, Executive Committee of the Medical Staff, Armed Forces Institute of Pathology, Washington, DC
8. Chair, Tissue Utilization Committee, Armed Forces Institute of Pathology
9. Chair, Pathology Information Management Systems (PIMS) Committee, Armed Forces Institute of Pathology

Representation to Professional Societies:

1. Member, Foundation for Advanced Education in the Sciences, Inc
2. Member, Society for Pediatric Pathology
3. Member, United States and Canadian Academy of Pathology
4. Member, American Academy of Federal Service Physicians
5. Member, American Association for the Study of Liver Diseases
6. Member, Hans Popper Society
7. Member, Sociedad de Gastroenterologia, Puerto Rico
8. Member, Academy of Medicine of Washington
9. Member, Senior Executives Association
10. Secretary, International Academy of Pathology
11. Member, Association of Directors of Surgical Pathology
12. Member, American Medical Association
13. Trustee, History of Pathology Society
14. Member, Nominating Committee, History of Pathology Society
15. Member, Society of Toxicologic Pathologists
16. Member, Sociedad Latino Americana de Patologia
17. Member, Asociacion Mexicana de Patologos, A.G., Mexico
18. Member, Latin America Pathology Foundation

PUBLICATIONS

Journal Articles

1. Williams BH, Mullick FG, Butler DR, Herring RF, O'Leary TJ. Clinical evaluation of an international static image-based telepathology service. *Hum Pathol.* 2001;32:1309-1317.
2. Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C. Letter to the Editor. *Environ Health Perspect.* 2001;109:A465.

Abstracts

1. Ladich ER, Specht CS, Lewin-Smith MR, Moroz AL, Kalasinsky VF, Mullick FG. A histopathologic study of head and neck specimens from a cohort of Persian Gulf War military veterans. *Mod Pathol.* 2001;14:151A. Abstract 882.
2. Centeno JA, Mullick FG, Finkelman RB. Metals, health and the environment. In: *Proceedings of the Second Conference on Medical Geology for East and Southern African Countries*; June 2001.
3. Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C, Page NP, Martinez L. Environmental pathology of chronic arsenic poisoning: an overview and introduction. In: *Proceedings of the Third International Meeting on Molecular Mechanisms of Metal Toxicity and Carcinogenicity*; September 2001; Sardegnia, Italy.
4. Lewin-Smith MR, Specht CS, Ladich ER, Kalasinsky VF, Mullick FG. Gastrointestinal tract pathology specimens from US Military Gulf War veterans. In: *Abstracts of the Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2002; Alexandria, Va.
5. Lewin-Smith MR, Specht CS, Moroz AL, Ladich ER, Kalasinsky VF, Mullick FG. The distribution of anatomic pathology diagnoses in a cohort of US Persian Gulf War military veterans. *Am J Clin Pathol.* 2001;116:599-600.
6. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Mullick FG. Histopathologic study of skin biopsies in Gulf War veterans. The Kuwait Registry AFIP. In: *Abstracts of the Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2002; Alexandria, Va.



Joseph P. Jensen, BS, MPA
Administrator
Date of Appointment — 15 July 1993



CENTER FOR ADVANCED PATHOLOGY- OPERATIONS

MISSION

The Center for Advanced Pathology-Operations provides effective, efficient, and innovative administrative operations support to the Director, CAP, and all departments within CAP.

ORGANIZATION

The center is organized into 8 sections:

1. Office of the Administrator
2. Group 5 (Geographically separate from Bldg 54)
3. Financial and Logistics Support
4. International and Departmental Training Office
5. Software Development
6. Group Administrators
7. Credentialing
8. Quality Assurance and Risk Management

STAFF

Angela Washington, LtCol, USAF, MSC, Administrator, Group 5
Candy Moroz, Financial and Logistics Support
Dave Vargas, Logistics Support
(A) Jim Hughes, Logistics Support
(D) Anthony Hawkins, Inventory Supervisor
(D) Kim Herring, Data Entry Technician
(D) Leslie Middleton, International and Departmental Training, Group Administrator
(A) Carlos Moran, International and Departmental Training
Michael Feeser, Software Development
(D) Renee Upshur-Tyree, Administrator, Transcription Center
Wendy Baker, Group Administrator
Michele Block, Group Administrator
Sheila Norrington, Group Administrator
Mark Sacks, Group Administrator/Credentialing
Frank Roberts, Quality Assurance and Risk Management

ACTIVITIES

1. Since the terrorist attack of September 11, 2001, on the Pentagon, CAP Operations has become more security-sensitive. The administrator, Center for Advanced Pathology, assumed the responsibility of AFIP security manager. The Bio-Personnel Reliability Program, initiated by the Vice Chief of Staff, US Army, in conjunction with the department chairs and division chiefs, was established, along with TDA establishment of positions requiring security clearances.

2. The Medical Transcription Center was eliminated in 2001 and replaced by a telephone transcription service and a computer-based, voice-activated transcription software program, after much consideration.
3. The administrative support staff in the Center for Advanced Pathology declined in 2001, due to transfers into various key positions within the AFIP, without the loss of any missions. Steps have been initiated to hire the first-ever ARP group administrator.
4. \$32 million has been allocated to renovate Building 54, anticipated to be a 10-year project. An architect has been assigned as the chief of Logistics, with a close working relationship with the Health Facilities Planning Agency.
5. The Pathology Information Management System (PIMS), with Michele Block as the primary interface between the departments and the Information Management Division, continues to mature and be successful. A new laboratory computer program has been established to handle work requests and track procedures.

DEPARTMENTAL AND INTERNATIONAL TRAINING OFFICE

MISSION

The Departmental and International Training Office coordinates and monitors the AFIP's study and training activities, and ensures activities of the ARP are integrated according to all regulatory, legal, and service constraints.

SCOPE

The office is responsible for the coordination of all training and visits to the AFIP, and for ensuring that all Department of Defense guidelines and regulations are adhered to. It works closely with the Department of Medical Education and coordinates all international foreign training requests through appropriate channels. Additionally, the office serves as the liaison between the AFIP and the Office of the Army Surgeon General (OTSG) and/or the United States Department of State, as appropriate. The office is responsible for ensuring all training initiatives comply with governing regulations and maintain compliance with approved international agreements or applicable affiliation agreements.

In addition to services available through the Department of Medical Education, the AFIP also offers trainees and visitors an opportunity to participate in hands-on training and study programs. The AFIP offers many educational opportunities to those interested in training rotations, fellowships, etc. The AFIP's unique ability to offer observer training allows individuals to train and/or visit in one of the AFIP's specialized departments and participate in varied staff conferences. We offer one-on-one instruction with staff pathologists and the opportunity to participate in AFIP activities, providing an optimal training environment. For additional information, please visit the AFIP Web site at <http://www.afip.org>.

ACCOMPLISHMENTS

The office is continuing an ongoing initiative to redesign the training database. The coordinator has made significant strides towards this end, enabling the system to capture an assortment of information on all trainees and visitors, such as military affiliation, status, program category, fee assignment/payment, demographic information, man-workdays, etc.

The office processed approximately 230 international approvals for Department of Medical Education and Radiology courses, coordinated approximately 300 requests for interdepartmental training, and earned the Institute over \$103,749 in training-fee reimbursables.

The coordinator also serves as the Science and Engineering Apprentice Program laboratory coordinator. This program, sponsored by George Washington University, places academically talented high school students with an interest and ability in science and mathematics in DoD laboratories for 8 continuous weeks during the summer, to work with scientists and engineers who act as mentors. The AFIP has participated in this program for many years, and in 2001 hosted 11 students.

GROUP 1

MUSCULOSKELETAL & REPRODUCTIVE DISEASES

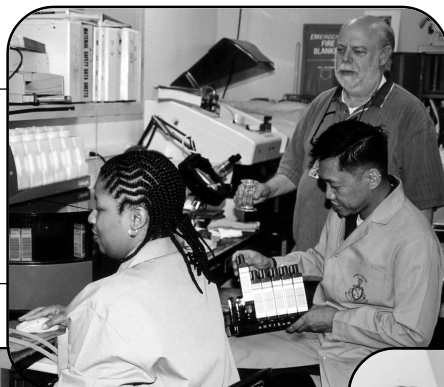
DERMATOPATHOLOGY

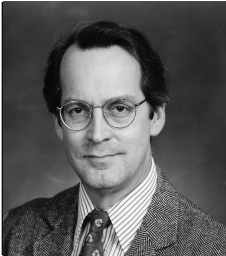
GENITOURINARY PATHOLOGY

GYNECOLOGIC & BREAST PATHOLOGY

ORTHOPEDIC PATHOLOGY

SOFT TISSUE PATHOLOGY





George P. Lupton, MD
Chair
Date of Appointment—1 July 1988



DEPARTMENT OF DERMATOPATHOLOGY

MISSION
The Department of Dermatopathology provides consultation services and conducts research and educational projects in the field of dermatopathology.

STAFF
Medical:
George P. Lupton, MD, Chair
Maria-Magdalena Tomaszewski, MD, Assistant Chair
Luke S. Chung, COL, MC, USA
(D) John C. Moad, LTC, MC, USA
Walter L. Rush, MD
Sylvana M. Tuur-Saunders, MD
(D) Petra Milde, MD
Kim M. Ruska, MAJ, USAF, MC.

Administrative:
Clara Desane
Margaret King
Viola Penn

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	3,137
Army	1,209
Navy	897
Air Force	1,031
Federal	1,799
VA	1,779
USPHS	11
OFA	9
Civilian	2,848
Interdepartmental	2,650
Total	10,434

The staff reviewed and reported 3,137 accessioned military cases and 4,647 accessioned federal and civilian consultations, including SERS and SERA cases submitted by the Department of Veterans Affairs (VA) and VA compensation claims cases.

The department also rendered opinions on 2,650 intramural consultations and reviewed cases from the Department of Legal Medicine.

4,870 cases (5,984 blocks): consultations 4,150 (5,311 blocks), education 685 (621 blocks), and research 35 (52 blocks), required the following types of procedures and analyses:

- H&E stains—16,951 (15,359 consultations / 1534 education / 58 research)
- Special staining—2,822 (2,562 consultations / 260 / education)
- Unstained—14,411 (13,512 consultations / 899 education)
- Recuts for immunohistochemical stain—16,714 (16,530 consultations / 184 education)
- Wet tissue processing—51 (47 consultations / 4 research)
- Immunohistochemical staining—13,712 slides on 1,749 cases
- Electron microscopy—4 cases
- Direct immunofluorescence—47 cases
- HPV insitu hybridization —
- Molecular biology study—732 tests on 265 cases

Our department made no change in the contributor diagnosis in 3,686 cases, a minor change in diagnosis in 625 cases, and a major change in diagnosis in 334 cases. We received 3,084 cases with no contributor diagnosis.

Impact:

Many accessioned federal and civilian consultations were difficult cases, such as melanocytic lesions, that could present high-risk medicolegal problems. We changed 334 patients' diagnosis from a benign lesion to cancer or from cancer to a benign lesion, greatly changing treatment outcome, leading to a potential saving of millions of dollars in medical malpractice suits.

Quality Assurance:

During 2001, our staff participated in quality assurance and risk management (QA/RM) activities at regularly scheduled departmental conferences, and pursued a comprehensive departmental quality assurance plan, with monthly reporting of QA/RM issues.

EDUCATION

Presentations and Seminars: Members of our department made 25 presentations at professional conferences, symposia, and annual meetings, representing a total of 2,775 man-hours. A complete list of titles, dates, and locations is listed at the end of this report. Department staff presented teaching and diagnostic slide conferences four times weekly for staff pathologists, dermatopathology fellows, residents, and visiting physicians. We also participated in teaching activities at the AFIP, such as professional staff conferences and the Quarterly AFIP/VA and Military Histopathology Quality Assessment Program.

Courses: Members of the department presented at 4 courses (1 Non-AFIP, 2 Nondepartmental, and 1 Departmental):

1. 11th Annual Anatomic Pathology Review Course (AFIP)
2. Dermatopathology Workshop by the Department of Dermatopathology (AFIP/ARP)
3. American Academy of Dermatology, 59th Annual Meeting
4. Pathology in the New Millennium (AFIP)

Trainees: In 2001, the department provided training for 36 military and civilian physicians, fellows, and residents in dermatology, pathology, and dermatopathology. Trainees spent an average of 21.61 days in our department, for a total of 778 trainee-days.

Residents: A total of 778 training-days were provided to residents assigned to our department on a rotation basis (337 federal, 323 nonfederal, and 118 international). They came from teaching facilities including Walter Reed Army Medical Center, National Naval Medical Center, Washington Hospital Center, Howard University Medical Center, Georgetown University Medical Center, George Washington University Medical Center, National Institutes of Health and other military teaching hospitals, and civilian institutions across the country. Three dermatopathology fellows (2 military and 1 civilian), 11 dermatology residents (5 federal, 4 nonfederal and 2 foreign), 15 pathology residents (4 federal, 8 nonfederal and 3 foreign), and 8 visiting dermatologists/pathologists (4 federal, 3 nonfederal and 1 foreign)

participated in our program.

Fellows: Our department's Dermatopathology Fellowship Training Program is accredited by the Residency Review Committee for Dermatology and Pathology under the Accreditation Council for Graduate Medical Education (ACGME). The program is accredited for 1 year of training for 2 fellows as a joint effort of the AFIP Department of Dermatopathology and the Department of Pathology and Dermatology Services, WRAMC and NNMC. To qualify for a training appointment, dermatopathology fellows must be board-certified or board-eligible in dermatology and/or pathology. After successful completion of 1 year of training, fellows are eligible to apply to take the Examination for Certification of Special Qualification in Dermatopathology, an annual exam administered jointly by the American Board of Dermatology (ABD) and the American Board of Pathology (ABP).

During the academic year 2000-2001, 1 physician (1 Army pathologist) was trained as a dermatopathology fellow. Two other physicians: 1 Navy dermatologist and 1 civilian pathologist (a Callender-Binford Fellow) sponsored by the American Registry of Pathology began their fellowship program in July 2001.

Educational Aids: Fourteen dermatopathology teaching sets (10 sets of glass slides and 4 sets of 35-mm slides) are available through interlibrary loan. The sets are used extensively by fellows, medical students, and residents throughout the country preparing for certification examinations in dermatology and dermatopathology.

RESEARCH

Publications: In 2001, department staff published 6 journal articles and 1 textbook chapter. Complete bibliographical information is listed at the end of this report.

Projects: Four ongoing projects were reviewed and are in progress:

1. Nodular Hyperplasia in Congenital Nevi
2. Spindle Cell and Epithelioid Cell Nevi with Atypia and Metastasis (Malignant Spitz Nevus): A Follow-up and Immunohistochemical Study
3. Malignant Melanoma – Tumor Microarray.
4. Spindle Cell and Epithelioid Cell (Spitz) nevus in the black population.

OTHER ACCOMPLISHMENTS

Collaborators: Two papers were published jointly with:

1. Department of Hematopathology, AFIP
2. Laboratory of Molecular Biology, National Cancer Institute, NIH.

Honors:

The "A" designator award for professional achievement in medical specialty:

1. George P. Lupton, MD (1987)
2. Maria-Magdalena Tomaszewski, MD (2000)

Committees:

1. Accessioning Committee – Dr. Tuur
2. Awards Committee – Dr. Tuur
3. Consultation Committee – Dr. Tomaszewski
4. Credential Committee – Dr. Ruska

Editorial Board:

American Journal of Dermatopathology — Dr. Lupton

Offices and Committee Membership in National and International Societies: Chairman, Committee on Peer Review, American Society of Dermatopathology —Dr. Lupton

Faculty Appointments:

1. Uniformed Services University of the Health Sciences, Bethesda, Md — Dr. Lupton
2. George Washington University School of Medicine, Washington, DC — Dr. Lupton

Continuing Education:

The staff of the Department of Dermatopathology attended 5 different training courses in 2001, provided at the following venues:

1. AFIP Anatomic Pathology Review Course

2. Dermatopathology Workshop (AFIP/ARP)
3. College of American Pathology
4. Annual Meeting of the American Academy of Dermatology
5. Annual Meeting of the German Society of Dermatopathology

Official Trips:

Members of our department did not take any official trips funded by AFIP/ARP.

PRESENTATIONS

1. January 2001: Washington, DC, Georgetown University, Department of Pathology, "Sarcomas of Relevance to Dermatopathology," JC Moad.
2. January 2001: Washington, DC, Washington Hospital Center, Dermatology Department, "Cutaneous T-cell Lymphoma," M-M Tomaszewski.
3. January 2001: Washington, DC, Walter Reed Army Medical Center, Department of Dermatology, "Fungal Diseases," SM Tuur
4. January 2001: Washington, DC, Walter Reed Army Medical Center, Department of Dermatology, "Protozoal Diseases," SM Tuur
5. January 2001: Washington, DC, AFIP Weekly Staff Conference, "Unusual Cases of Mycosis Fungoides," WL Rush.
6. January 2001: Washington, DC, AFIP Weekly Staff Conference, "Interesting Dermatopathology Cases," KM Ruska.
7. March 2001: Washington, DC, American Academy of Dermatology, 59th Annual Meeting, Advanced Self-Assessment Dermatopathology Course, Case Presentations, GP Lupton.
8. March 2001: Washington, DC, American Academy of Dermatology, 59th Annual Meeting, Clinicopathologic Conference, Case Presentations, GP Lupton.
9. March 2001: Washington, DC, Washington Hospital Center, Dermatology Department, "Cutaneous B-cell Lymphoma and Leukemias," M-M Tomaszewski.
10. March 2001: Washington, DC, Walter Reed Army Medical Center, Department of Dermatology, "Proliferations of Fibrous and Related Tissues," M-M Tomaszewski.
11. March 2001: Washington, DC, George Washington University, School of Medicine, Department of Pathology, "Sarcomas of Relevance to Dermatopathology," JC Moad.
12. April 2001: Washington, DC, Walter Reed Army Medical Center, Department of Dermatology, "Vascular Neoplasms," SM Tuur.
13. May 2001: Silver Spring, Md, AFIP Course, 11th Anatomic Pathology Review and Update, "Melanocytic Lesions of the Skin," JC Moad.
14. May 2001: Silver Spring, Md, AFIP Course, 11th Anatomic Pathology Review and Update, "Malignant Eccrine Neoplasms," GP Lupton.
15. May 2001: Silver Spring, Md, AFIP Course, 11th Anatomic Pathology Review and Update, "Inflammatory Dermatoses: A Diagnostic Approach", WL Rush
16. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Problematic Melanocytic Lesions," GP Lupton.
17. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Infectious Diseases," SM Tuur-Saunders.
18. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Utilizing Immunohistochemistry in Dermatopathology," M-M Tomaszewski.
19. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Malignant Eccrine Neoplasms," GP Lupton.
20. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Sarcomas of Relevance to Dermatopathology," PG Milde
21. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Necrobiotic Granulomatous Dermatitis," KM Ruska.
22. May 2001: Arlington, Va, AFIP/ARP Course, The Dermatopathology Workshop, "Diseases of Pannus Adiposus," WL Rush.
23. June 2001: Washington, DC, George Washington University, School of Medicine, Department of Pathology, "Adnexal Neoplasia," SM Tuur

24. October 2001: Washington, DC, Walter Reed Army Medical Center, Department of Dermatology, "Diseases of Pannus Adiposus," WL Rush.
25. December 2001: Washington, DC, AFIP Conference, Pathology in the New Millennium, "The Value of Second (Expert) Opinion in Medicine: The AFIP Perspective," GP Lupton.

PUBLICATIONS

Journal Articles

1. Aguilera NSI, Tomaszewski M-M, Moad JC, Bauer FA, Taubenberger JK, Abbondanzo SL. Cutaneous follicle center lymphoma: a clinicopathologic study of 19 cases. *Mod Pathol*. 2001;14:828-835.
2. Milde P, Guccion JG, Kelly J, Locatelli E, Jones R. Adult polyglucosan body disease: diagnosis by sural nerve and skin biopsy. *Arch Pathol Lab Med*. 2001;125:519-522.
3. Milde P, Lupton GP. Melanoma or not? *Dermatopathology Practical and Conceptual*. 2001;7:127-128.
4. Noonan F, Recio J, Tahayama H, Duray P, Anver M, Rush WL, Lindner G, DeFabo E, Merlino G. Neonatal sunburn and melanoma in mice. *Nature*. 2001;413:271-272.
5. Rush WL, Lupton GP. Cutaneous manifestations of Erdheim-Chester disease: report of a patient and review of the literature. *Dermatopathology Practical and Conceptual*. 2001;7:247-254.
6. Rush WL. William Chester, MD (1903–1974). *Dermatopathology Practical and Conceptual*. 2001;7:255-259.

Book Chapter

Rush WL. Langerhans' cell granulomatosis? In: Ackerman AB, Mones J, eds. *Resolving Quandaries in Dermatology, Pathology & Dermatopathology II*. New York, NY: Ardor Scribendi; 2001:222-227.



F. K. Mostofi, MD
Chair
Date of Appointment—1 July 1948



DEPARTMENT OF GENITOURINARY PATHOLOGY

MISSION

The Department of Genitourinary Pathology carries out consultation, research, and clinico-pathological studies of the kidney, bladder, prostate, testes, and penis. The department strives to maintain and expand its research and educational programs for excellence in consultation for military and federal agencies and civilian pathologists, and to provide pathology support for military and VA urology research as requested.

ORGANIZATION

The department is organized into 3 divisions.

Division of Nephropathology — Sharda G. Sabnis, MD, Chief

Division of Genitourinary Pathology — Charles J. Davis, Jr, MD

Division of Genitourinary Research — Isabell A. Sesterhenn, MD

STAFF

Medical:

F. K. Mostofi, MD, Chair

Charles J. Davis, Jr, MD, Deputy Chair, ARP

Isabell A. Sesterhenn, MD, Associate Chair

(D) Robert W. Brinsko, CDR, MC, USNR, Staff Pathologist

Raj Shekar, COL, MC, USA, Staff Pathologist

Michael O'Donoghue, LCDR, MC, USNR, Staff Pathologist

Wei Zhang, MD, Fellow

Technical:

Frank A. Avallone, Research Biologist

Denise Young, Histopathology Technologist, ARP

Rex C. Hartzoge, Histopathology Technologist

Administrative:

Renee Upshur-Tyree, Administrator

Annette D. Allen, Secretary, VA

Harriet M. Murphy, Administrative Clerk, ARP

DIAGNOSTIC CONSULTATION

<i>Cases</i> _____	<i>Completed</i>
Military	1,325
Army	(586)
Navy	(132)
Air Force	(607)
Federal	1,272
VA	(1,252)
USPHS	(0)
OFA	(20)
Civilian	1,889
Interdepartmental	384
Total	4,870

2,698 cases for consultation, 135 for education, and 6 for research required the following types of procedures and analyses:

- H&E stains – 9,516 slides (Scientific Laboratories)
- H&E stains – 4,897 slides (Genitourinary Lab)
- Special stains – 516 slides
- Immunohistochemical staining – 7,911 tests for 2,084 cases
- Electron microscopy – 3 cases
- Frozen tissue sections for DNA and RNA extraction – 8,100 slides for 135 cases
- HPV insitu hybridization – 789 slides for 166 cases
- Chromosome studies – 43 cases
- Molecular biology examination – tests for 2 cases
- Total recuts studied – 54,353
- Contributor slides studied – 25,737

Our departmental laboratory performed 7,911 direct immunohistochemical tests on 680 cases for 17 other AFIP departments or divisions, and 2 tests on 1 case for WRAMC. The laboratory performed HPV in-situ hybridization for 8 AFIP departments, resulting in 577 slides for 157 cases, and 9 cases for WRAMC, resulting in 30 slides. These 607 slides for HPV tests necessitated 182 control slides, resulting in 789 HPV slides. The laboratory also performed frozen tissue sections for 5 other AFIP departments or divisions, including 482 cases with 6,266 slides for frozen section for immunofluorescence studies (FITC), 482 H&E sections, and 720 photographs of FITC slides. Twenty-two skin biopsies from National Naval Center Bethesda required 286 FITC slides and 22 H&E stained slides; 10 cases from the NIH required 130 FITC slides.

Our department made no change in the contributor diagnosis in 1,836 cases (two thirds of which were for confirmation), a minor change in diagnosis in 2,336 cases, and a major change in diagnosis in 59 cases, and received 247 cases with no contributor diagnosis.

Most of our surgical consultations were on prostate specimens, increasingly from patients under 60 years of age. The number of bladder tumor consultations have increased.

There were 27 Telepathology cases: 20 national and international civilian contributors; 2 Veterans Affairs laboratories; and 5 military. These cases were immediately examined and reported.

Impact:

The department provided consultations on over 4,897 cases, and nearly 53.3% of these were military, VA, and Public Health cases. The figures for 2001 were representative. In a survey of prostate specimens received in 1 month, a minor diagnostic change with respect to pathological disagreement was made in 33% of civilian cases, 25% of military cases, and 22% of VA cases (including SERS cases); the change in diagnosis had a major impact on clinical management.

In the past 3 years, the staff has published 3 books for the World Health Organization: the International Histological Classification of Tumors of Bladder, Testis, and Kidney Cancer. A fourth book on prostate cancer is in press. The books provide criteria for diagnosis of tumor.

We have research projects with Harvard Medical School; Riverside Research Institute, New York; Georgetown University; and the University of Colorado. In a typical year, senior staff members lecture at 15 to 20 national or international meetings, and provide an annual course on genitourinary pathology, which is attended by candidates for the American Board of Urology, and a weekend course on interpretation of prostate and bladder biopsies. The chair is on the faculty of Johns Hopkins and Maryland and Georgetown Universities, and the Dean's Council of Harvard Medical School.

We provide the pathology support for diagnosis, treatment, and research for the Center for Prostate Disease Research (designed as a triservice prostate specimen repository), mandated by Congress as authorized in Public Law 102-172. In this capacity, the department frequently provides personal consultations to members of Congress and high-ranking military officers.

The Division of Nephropathology has, in recent years, absorbed essentially all military and VA renal biopsies, increasing the caseload from 90 to 233. All electron microscopies on renal biopsies have been eliminated in all military and most VA hospitals.

Quality Assurance: We participated in 2 proficiency tests in immunohistochemistry and 2 tests in in situ hybridization.

EDUCATION

Presentations and Seminars: Department staff participated in 11 seminars, workshops, and lectures, and continued their affiliations with WRAMC, National Naval Medical Center, and USUHS by lecturing to pathologists, residents, and fellows. Dates and titles are listed at the end of this report.

Courses:

1. January 2001: 6-day (54 hours) course in urologic pathology for candidates taking the American Board of Urology Examination.
 2. May 2001: 6-day (54 hours) course in urologic pathology for candidates taking the American Board of Urology Examination.
- Both courses combined required 16,200 contact-hours, 384 man-hours.
3. May 2001: AFIP, Anatomic Pathology Course.
 4. An Internet-based course on urologic pathology is available on the Web.

Trainees: Urology residents from WRAMC, the National Naval Medical Center, Portsmouth Naval Medical Center, San Diego Naval Medical Center, and Washington Hospital Center spend 1 month in the department and additional time, as required, if they are involved in a joint research project. In 2001, we had 5 fellows/residents in training for a total of 96 days.

Educational Aides:

1. The second module of the Internet-based Genitourinary Pathology Course will soon be available on the Web.
2. 225 slides were sent to VA hospitals for the VA Quality Assurance Program.

RESEARCH

Publications: In 2001, department staff published 8 journal articles and 8 abstracts. Complete references are listed at the end of this report.

Projects:

The department continues to provide pathology support for research projects of the Urology Service at the Walter Reed Army Medical Center, the Center for Prostate Disease Research, USUHS, Andrews Air Force Base, and the National Naval Medical Center, Bethesda, Md. These projects involve prostatic carcinoma, testicular tumors, and bladder cancers.

Departmental Projects:

1. Studies of Various Renal Tumors in Adults (Wilms' tumor, certain epithelial tumors, multilocular cystic nephroma, and a group of renal hamartomas (angiomyolipoma, capsuloma, adenoleiomyofibroma)).
2. Review of Testicular Tumors in Infants and Children.
3. Studies of Carcinoma In Situ of the Bladder.

Extramural Projects:

1. Prostatic Carcinoma with Urology Services of Naval Medical Center, San Diego; Walter Reed Army Medical Center; and Andrews Air Force Base.

2. Bladder Cancer with Urology Services of National Naval Medical Center.
3. Pathologic-Radiologic Correlation on Three-Dimensional Ultrasonic Visualization of Prostate Cancer. WRAMC, Biomedical Engineering Laboratories, Riverside Research Institute, New York.
4. Asparagine-Linked Glycosylation Patterns in Prostate Cancer Metastases. Center for Cancer Research; MIT, Boston; Brigham Women's Hospital; Harvard Medical School; and Glyko Inc, Novato, California.
5. Clinical Trial with Combination Therapy in Locally Advanced Prostatic Carcinoma, Beth Israel Deaconess Medical Center, Boston (Urology, Pathology, and Oncology Departments).
6. p53 and bcl2 in Familial Prostate Cancer. Cleveland Clinic, Ohio (Urology and Pathology Departments).
7. Comparison of Chinese and American Prostatic Carcinomas. Division of Cancer, Epidemiology and Genetics, NCI.
8. International Study on Familial Testicular Tumors. Division of Epidemiology, NIH.

Intramural Projects:

1. Department of Cellular Pathology: Flow-cytometric Analysis of 120 Prostatic Carcinomas.
2. Molecular Pathology Division of Cellular Pathology, Gynecologic and Breast Pathology for the study of interphase cytogenetics and p53 Gene Mutations in Node-positive and Node-negative Breast Cancers.

Research Funds Received: Collaboration with the Center for Prostate Disease Research in the amount of \$125,000, for a fellow and expenses.

OTHER ACCOMPLISHMENTS

Honors: FK Mostofi was elected Honorary Fellow of the Royal College of Pathologists, England, November 2001.

Manuscripts Reviewed: FK Mostofi, CJ Davis, and IA Sesterhenn reviewed 15 manuscripts for the following professional journals:

1. *Journal of Urology*
2. *Urology*
3. *The Prostate*
4. *Cancer*

Committees:

IA Sesterhenn

Invited to participate in the International Consultation on the

Diagnosis of Non-Invasive Urothelial Neoplasms, May 2001, Ancona Italy.

Offices and Committee Membership in National and International Societies:

FK Mostofi

1. Head, WHO Collaborating Center for Histological Classification of Tumors of the Urinary Tract and Male Genital System
2. Secretary-Treasurer, International Council of Societies of Pathology
3. Trustee, American Foundation for Urologic Diseases

Faculty Appointments:

FK Mostofi

1. Adjunct Professor of Pathology, Uniformed Services University of the Health Sciences, Bethesda, Md.
2. Associate Professor of Pathology, Johns Hopkins University School of Medicine, Baltimore, Md.
3. Clinical Professor of Pathology, Georgetown University School of Medicine, Washington, DC.
4. Clinical Professor of Pathology, University of Maryland, Baltimore.
5. Honorary Professor - Chinese Peoples Liberation Army General Hospital and Military Post Graduate Medical School, Beijing, China.

IA Sesterhenn

Assistant Professor of Pathology, Uniformed Services University of the Health Sciences, Bethesda, Md.

CJ Davis

Professor of Pathology, Uniformed Services University of the Health Sciences, Bethesda, Md.

Official Trips (funding agencies in parentheses):

1. February 2001: Oregon Pathologists Association Seminar in GU Pathology (Oregon Society of Pathologists).
2. March 2001: United States and Canadian Academy of Pathology.
3. May 2001: International Consultation on the Diagnosis of Non-Invasive Urothelial Neoplasms (Ancona, Italy).
4. June 2001: Sentara Virginia Beach General Hospital, WHO Classification of Urinary Bladder Tumors and Interpretation of Recurrent Elevation of PSA Serum Levels, IA Sesterhenn (Virginia Beach Society of Pathologists).
5. June 2001: 2nd General Hospital, Landstuhl Army Regional Medical Center, Germany, FK Mostofi, IA Sesterhenn (local expenses paid by Department of Army).
6. June 2001: Homburg, Saar, Department of Urology, FK Mostofi, IA Sesterhenn.
7. June 2001: Anaheim, Calif, 96th AUA Annual Meeting.
8. September 2001: Maryland Society of Pathologists, WHO Classification of Bladder Tumors, CJ Davis Jr.
9. October 2001: Georgetown University Hospital, IA Sesterhenn.

PRESENTATIONS

1. January 2001: Bethesda, Md, Annual Urological Pathology Course, Multiple Lectures, FK Mostofi, CJ Davis Jr, IA Sesterhenn, R. Shekar, RW Brinsko, MJ O'Donoghue, W Zhang.
2. March 2001: Bethesda, Md, National Naval Medical Center, "Tumors of the prostate," FK Mostofi.
3. March 2001: Bethesda, Md, National Naval Medical Center, "Tumors of the kidney," CJ Davis.
4. March 2001: Bethesda, Md, National Naval Medical Center, "Tumors of the testis," IA Sesterhenn.
5. March 2001: Washington, DC, Walter Reed Army Medical Center, "Tumors of the prostate," FK Mostofi.
6. March 2001: Washington, DC, Walter Reed Army Medical Center, "Tumors of the kidney," CJ Davis Jr.
7. March 2001: Washington, DC, Walter Reed Army Medical Center, "Tumors of the testis," IA Sesterhenn.
8. March 2001: Atlanta, Ga, 90th Annual United States and Canadian Academy of Pathology Meeting, "Significance of seminal vesicle invasion by prostatic carcinoma," IA Sesterhenn, W Zhang, FK Mostofi, CJ Davis, JW Moul, M Gibbons, DG McLeod.
9. June 2001: Anaheim, Calif, 96th AUA Annual Meeting, "Improvements in pathologic staging for African-American men undergoing radical retropubic prostatectomy during the PSA-ERA: implications for screening a high-risk group for prostate cancer," EL Paquette, RR Connelly, L Sun, LR Paquette, JW Moul, IA Sesterhenn, W Zhang, R Greenspan, DG McLeod.
10. June 2001: Anaheim, Calif, 96th AUA Annual Meeting, "Modulation of maspin expression by p53 and androgen signaling in prostate tumor cells," Z Zou, C Gao, JW Moul, S Srivastava, W Zhang, IA Sesterhenn, M Gleave, P Rennie.
11. June 2001: Anaheim, Calif, 96th AUA Annual Meeting, "Does invasive grade I urothelial carcinoma exist?" IA Sesterhenn, FK Mostofi, CJ Davis Jr, W Zhang, RW Brinsko.
12. June 2001: Anaheim, Calif, 96th AUA Annual Meeting, "Significance of seminal vesicle invasion by prostatic carcinoma," DG McLeod, FK Mostofi, IA Sesterhenn, W Zhang, CJ Davis Jr, M Gibbons, JW Moul.
13. June 2001: Anaheim, Calif, 96th AUA Annual Meeting, "Correlating the number of positive biopsy cores to tumor volume for prostate cancer," MB Opell, J Zeng, JJ Bauer, W Zhang,

IA Sesterhenn, SK Mun, JW Moul, JH Lynch, RR Connelly.

PUBLICATIONS

Journal Articles

1. Allsbrook WC Jr, Mangold KA, Johnson MH, Lane RB, Lane CG, Amin MB, Bostwick DG, Humphrey PA, Jones EC, Reuter VE, Sakr W, Sesterhenn IA, Troncoso P, Wheeler TM, Epstein JI. Interobserver reproducibility of Gleason grading of prostatic carcinoma: urologic pathologists. *Hum Pathol.* 2001;32:74-80.
2. Chokkalingam AP, McGlynn KA, Gao YT, Pollak M, Deng J, Sesterhenn IA, Mostofi FK, Fraumeni JF Jr, Hsing AW. Vitamin D receptor gene polymorphisms, insulin-like growth factors, and prostate cancer risk: a population-based case-control study in China. *Cancer Res.* 2001;61:4333-4336.
3. Chokkalingam AP, Pollak M, Fillmore CM, Gao YT, Stanczyk FZ, Deng J, Sesterhenn IA, Mostofi FK, Fears TR, Madigan MP, Ziegler RG, Fraumeni JF Jr, Hsing AW. Insulin-like growth factors and prostate cancer: a population-based case-control study in China. *Cancer Epidemiol Biomarkers Prev.* 2001;10:421-427.
4. Hsing AW, Chen C, Chokkalingam AP, Gao YT, Dightman DA, Nguyen HT, Deng J, Cheng J, Sesterhenn IA, Mostofi FK, Stanczyk FZ, Reichardt JK. Polymorphic markers in the SRD5A2 gene and prostate cancer risk: a population-based case-control study. *Cancer Epidemiol Biomarkers Prev.* 2001;10:1077-1082.
5. Lacey JV Jr, Deng J, Dosemeci M, Gao YT, Mostofi FK, Sesterhenn IA, Xie T, Hsing AW. Prostate cancer, benign prostatic hyperplasia and physical activity in Shanghai, China. *Int J Epidemiol.* 2001;30:341-349.
6. Paquette EL, Connelly RR, Sesterhenn IA, Zhang W, Sun L, Paquette L, Greenspan MD, McLeod DG, Moul JW. Improvements in pathologic staging for African-American men undergoing radical retropubic prostatectomy during the prostate specific antigen era. *Cancer.* 2001;92:2673-2679.
7. Yasunaga Y, Nakamura K, Ko D, Srivastava S, Moul JW, Sesterhenn IA, McLeod DG, Rhim JS. A novel human cancer culture model for the study of prostate cancer. *Oncogene.* 2001;20:8036-8041.
8. Zeng J, Bauer J, Zhang W, Sesterhenn I, Connelly R, Lynch J, Moul J, Mun SK. Prostate biopsy protocols: 3D visualization-based evaluation and clinical correlation. *Comput Aided Surg.* 2001;6:14-21.

Abstracts

1. McLeod DG, Mostofi FK, Sesterhenn IA, Zhang W, Davis CJ, Gibbons M, Moul JW: Significance of seminal vesicle invasion by prostatic carcinoma. *J Urol.* 2001;165(suppl 5):292. Abstract 1200.
2. Opell MB, Zeng J, Bauer JJ, Zhang W, Sesterhenn IA, Mun SK, Moul JW, Lynch JH, Connelly RR. Correlating the number of positive biopsy cores to tumor volume for prostate cancer. *J Urol.* 2001;165 (suppl 5):312. Abstract 1284.
3. Pauquette EL, Connelly RR, Sun L, Paquette LR, Moul JW, Sesterhenn IA, Zhang W, Greenspan R, McLeod DG. Improvements in pathologic staging for African-American men undergoing radical retropubic prostatectomy during the PSA-ERA: implications for screening a high-risk group for prostate cancer. *J Urol.* 2001;165 (suppl 5):65. Abstract 266.
4. Ryan G, Fisk BA, Constantine G, Sesterhenn IA, Moul JW, McLeod DG, Peoples GE. Preclinical testing of a peptide-based, HER2/Neu vaccine in prostate cancer. *Proc Am Assoc Cancer Res.* 2001;42:681. Abstract 3668.
5. Sesterhenn IA, Mostofi FK, Davis CJ, Zhang W, Brinsko RW. Does invasive grade I urothelial carcinoma exist? *J Urol.* 2001;165 (suppl 5):65. Abstract 1063.
6. Sesterhenn IA, Zhang W, Mostofi FK, Davis CJ, Moul JW, Gibbons M, McLeod DG. Significance of seminal vesicle invasion. *Lab Invest.* 2001;81:122A. Abstract 712.
7. Zou Z, Gao C, Moul JW, Srivastava S, Zhang W, Sesterhenn IA, Gleave M, Rennie P. Modulation of maspin expression by p53 and androgen signaling in prostate tumor cells. *J Urol.* 2001;165(suppl 5):137. Abstract 562.
8. Zou Z, Zhang W, Gao C, Connell T, Moul JW, Srivastava S, Sesterhenn IA. Modulation of maspin expression by p53 and androgen signaling in prostate tumor cells. *Proc. Am Assoc Cancer Res.* 2001;42:791. Abstract 4247.



Sharda G. Sabnis, MD
 Chief
 Date of Appointment—1 January 1994



DIVISION OF NEPHROPATHOLOGY

MISSION

The Department of Nephropathology provides expertise in consultation, education, and research for the military, federal, and civilian sectors at the national and international level.

STAFF

Medical:

Sharda G. Sabnis, MD
 William B. Ross, CAPT, MC, USN

Scientific:

Ashwini A. Chavan, MD, Callender-Binford Fellow
 Hong Qu, MD, Callender-Binford Fellow

Administrative:

Paulette Crampton, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	119
Army	(70)
Navy	(32)
Air Force (17)	
Federal	68
VA	(49)
OFA	(19)
USPHS	(0)
Total	187
Civilian	310
Interdepartmental	28(+16 walk-ins) 44
Total	541

Procedures and analyses:

- H&E stain: 678
- Special stains: 2,034
- Electron microscopy: 529
- Immunofluorescence microscopy: 4,998
- Immunohistochemistry (immunoperoxidase): 104
- Molecular biology study: 2

Division staff reviewed a total of 601 cases, including 494 surgical cases, 3 autopsies, 28 intramural and 16 extramural consultations, and 60 research specimens. Among the 601

cases reviewed, 529 specimens were studied by EM, including those that needed additional evaluation, and 357 were studied by immunofluorescence microscopy (4,998 slides; 3,213 FITC). For light microscopy, 339 cases were processed, for a total of 678 H & E slides and 2,034 slides for special stains (Masson trichrome, PAS, and PAMS stains). Immunohistochemistry (immunoperoxidase technique) was performed on 26 specimens (104 slides stained). The average case turnaround time was 7.8 days, including completion of studies and rendering the final report.

Impact:

In general, the cases received by the division pose diagnostic problems for the contributing pathologists and nephrologists. The division serves as the primary pathologist in most cases, as it is required that most cases be studied by electron microscopy to reach a conclusive diagnosis. The cases are routinely studied using light and electron microscopy. When tissue is available, immunofluorescence microscopy is performed, and immunoperoxidase technique is used when necessary. These cases over the years have been included in various research projects and clinicopathologic studies, and have been used as teaching material.

EDUCATION:

Presentations and Seminars: The division made 14 presentations at conferences and symposia in 2001. Dates and titles are listed at the end of this report.

The division participated in the following additional educational efforts, for a total of 3,740 man-hours of instruction:

1. Daily 3-hour microscopic pathology conferences, providing on-the-job training for 16 civilian and military fellows, including national and international pathologists and nephrologists.
2. Monthly renal biopsy conference for the staff and fellows of the Division of Nephrology, Walter Reed Army Medical Center.
3. Monthly biopsy conference: Georgetown University Hospital, George Washington University Medical Center, Washington Hospital Center.
4. Federal Medical Monthly Nephrology Seminar, USUHS, Bethesda, Md.
5. Monthly biopsy conference: Renal Transplant Pathology-Grand Rounds, National Institutes of Health.

Courses:

1. 3-day course, A Microscope Workshop Update on Renal Biopsies in Medical Renal Diseases.
2. Annual Pathology Review Course, WB Ross (director and faculty).

Trainees: 16 pathology and nephrology trainees rotated for periods of 2 weeks to 1 month, for a total of 384 trainee-days.

RESEARCH

Publications: Division staff published 1 journal article, 3 abstracts, and 1 other publication in 2001. Complete references are listed at the end of this report.

OTHER ACCOMPLISHMENTS

Committees:

1. SG Sabnis: Founding Member, International Society of Geriatric Nephrology and Urology
2. SG Sabnis: Founding Member, Association of Indian Pathologists in North America.

Editorial Boards:

1. *Transplantation India*
2. *Archives of Medical Research, Mexico*

Faculty Appointments:

1. Georgetown University, Clinical Associate Professor, Department of Pathology, SG Sabnis
2. George Washington University, Adjunct Associate Professor, Department of Pathology, SG Sabnis
3. Dr. Sabnis serves as a consultant to the Department of Pathology, National Naval Medical Center (NNMC), and as Adjunct Staff Member, Department of Pathology Walter Reed Army Medical Center.

Official Trips:

1. March 2001, 90th Annual Meeting of the United States and Canadian Academy of Pathology, Atlanta, Ga, SG Sabnis, AR Chavan (ARP).
2. December 2001, Annual Conference of the West Zone Chapter of Indian Society of Nephrology, Nadiad and Baroda, India, SG Sabnis (ARP).

Continuing Education:

Department staff attended the following training courses:

1. Annual Meeting of the United States and Canadian Academy of Pathology, Atlanta, Ga, (ARP).
2. Update on Renal Biopsies in Medical Renal Diseases, Silver Spring, Md, (ARP/AFIP).

PRESENTATIONS

1. January 2001: Washington, DC, Department of Pathology, WRAMC, "Pathology of renal transplants," SG Sabnis.
2. February 2001: Washington, DC, Department of Pathology, George Washington University, "Pathology of kidney transplants," SG Sabnis.
3. February 2001: Washington, DC, Department of Pathology, Georgetown University, "Kidney biopsy overview," SG Sabnis.
4. March 2001: Atlanta, Ga, US and Canadian Academy of Pathology, New Orleans, La, "Presence of CD30 reactive deposits in membranous glomerulopathy: a useful marker? A follow-up study," Poster Presentation, R Chavan, SG Sabnis.
5. March 2001: Silver Spring, Md. Update on Renal Biopsies in Medical Renal Diseases, "Pathology of lupus nephritis," "Evaluation of renal biopsy" and "Pathology of renal transplants," SG Sabnis.
6. March 2001: Silver Spring, Md, Update on Renal Biopsies in Medical Renal Diseases, "Glomerular diseases associated with hematuria," AR Chavan.
7. March 2001: Silver Spring, Md, Update on Renal Biopsies in Medical Renal Diseases, "Membranous glomerulopathy," WB Ross.
8. April 2001: Washington, DC. Department of Pathology, Howard University. "Evaluation of kidney biopsy," SG Sabnis.
9. August 2001: Washington, DC, Department of Pathology, WRAMC, "Evaluation of renal biopsy," SG Sabnis.
10. October 2001: Baltimore, Md, Division of Nephrology, Johns Hopkins University, "What's new in nephropathology?" SG Sabnis.
11. October 2001: Bethesda, Md, Department of Pathology, NIH, "Evaluation of renal biopsy," SG Sabnis.
12. October 2001: Washington, DC, AFIP-Staff Conference. "Newer Lesions in Nephropathology," S. G. Sabnis.
13. November 2001: Washington, DC, AFIP Staff Conference, "Case presentation" AR Chavan.
14. December 2001: Nadiad and Baroda, India, Annual Conference of the West Zone Chapter of Indian Society of Nephrology, "Pathology of renal transplants" and "Case discussion," SG Sabnis.

PUBLICATIONS:*Journal Article*

Schiffmann R, Kopp J, Austin H, Sabnis S, Moore DF, Weibel T, Balow J, Brady RO. Enzyme replacement therapy in Fabry disease: a randomized, controlled trial. *JAMA*. 2001;285:2743-2749.

Other Publication

Sabnis SG. Pathology of renal transplant. In: *Proceedings of the Annual Conference of the West Zone Chapter of the Indian Society of Nephrology*. 2001:6-12.

Abstracts

1. Sabnis SG, Ross WB, Chavan AR, Brattbauer GL. Presence of CD30 reactive deposits in membranous glomerulopathy: a useful marker? Follow-up study. *Lab Invest*.

- 2001;81:190A.
2. DeNunzio T, Kiandoli L, Sabnis S, Yuan C. Effect of angiotensin converting enzyme inhibitor (ACE I) and mycophenolate mofetil (MMF) on established puromycin aminoglycoside (PAN)-induced focal segmental glomerulosclerosis (FSGS). *J Am Soc Nephrol.* 2001;12:881A.
 3. Branton MH, Schiffmann R, Sabnis S, Murray GJ, Quirk JM, Altarescu G, Brady RO, Balow JE, Austin HA, Kopp JB. Alpha-galactosidase A activity and gene mutations: effect on pathology and course of Fabry renal disease. *J Am Soc Nephrol.* 2001;12:549A.



Fattaneh A. Tavassoli, MD
Chair
Date of Appointment—20 December 1994



DEPARTMENT OF GYNECOLOGIC AND BREAST PATHOLOGY

MISSION

The Department of Gynecologic and Breast Pathology provides expeditious, high-quality consultation to military and civilian health professionals. Our entire staff is also engaged in research, education, and telepathology activities.

STAFF

Medical:

Fattaneh A. Tavassoli, MD, Chair
(D) Kris Shekitka, Col, USAF, MC, Vice Chair and Deputy Director (AF) until his retirement
Michael Stamatakos, Lt Col, USAF, MC, Vice Chair
Brian Straus, Maj, USAF, MC, Staff Pathologist
Jeffrey Saenger, MAJ, MC, USA, Staff Pathologist
Lisa Tai, Staff Pathologist
Marille Herrmann, Staff Pathologist, ARP
Russell Vang, Fellow
(D) Anna Burga, Fellow

Scientific:

Gary Bratthauer, MS
Yan-Gao Man, MD

Administrative:

Brenda Winchenbach, Secretary
Angeline Edmonds, Editorial Assistant

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	2,046
Army	920
Navy	382
Air Force	465
Federal	328
VA	279
NFR	24
OFA	25
Civilian	2,801
Interdepartmental	267
Total	5163

2,913 cases for consultation, 388 for education, and 123 for research required the following types of procedures and analyses:

- H&E stains – 11,093 slides
- Special stains – 806 slides
- Immunohistochemical staining – 9,618 slides
- Electron microscopy – 7 cases
- Direct immunofluorescence – 62 tests for 27 cases
- HPV in situ hybridization – 28 slides for 19 cases
- Molecular biology examination – 3 tests for 1 case
- Total recuts studied – 20,006
- Contributor slides studied – 42,287
- Total number of slides studied – 62,293

Our department made no change in the contributor diagnosis in 1,437 cases, a minor change in diagnosis in 2,212 cases, and a major change in diagnosis in 128 cases. We received 1,010 cases with no contributor diagnosis; 86 cases were recorded without coding.

The department received 42,287 slides from contributors for consultation. Given the well known fact that the highest rate of law suites are for breast and gynecologic lesions, this large volume has caused significant stress among staff members. The majority of cases are surgical pathology specimens; less than 1% are autopsy material. Many of our cases are submitted with 20 or more slides. Cases with 50 to 100 slides are becoming more common, due to sampling requirements of breast biopsies, axillary lymph nodes, and large tumors. Evaluation of a borderline smooth muscle tumor may require up to 4 hours of initial slide assessment.

Impact:

1. The department chair was invited to be the editor of the WHO book on tumors of the breast and the female genital tract.
2. The department assessed the value of tandem staining with E-cadherin and CK903 in the precise classification of difficult lesions into ductal vs lobular type lesions.
3. The department published the largest series on lobular intraepithelial neoplasms and their association with a variety of invasive carcinomas and ductal intraepithelial neoplasia.

EDUCATION

Presentations and Seminars: Department staff gave over 30 presentations, for a total of over 5,000 man-hours.

Courses:

Non-AFIP Courses—FA Tavassoli:

1. Moderator, Precancerous Breast Lesions, 18th European Congress of Pathology, Berlin, Germany, September 8-13, 2001.
2. University of Bologna, Bologna, Italy, July 2-4, 2001.
3. Canadian Association of Pathologists, 52nd Annual Meeting, Breast Symposium, Quebec City, Canada, June 23-27, 2001.
4. Indiana Society of Pathologist, April 27-28, 2001.
5. University of Georgia, Augusta, Georgia, April 20-23, 2001.
6. University of Miami, Annual Surgical Pathology Conference, Florida, January 2001.
7. Director, Current Issues and Problems in Breast Pathology, American Society of Clinical Pathologists, May 2001.

AFIP Courses:

1. The department chair lectured at the AFIP Surgical Pathology Course, Milan, Italy, June 26-30, 2001.
2. Three staff members participated in the AFIP Pathology Review and Update Course.

Trainees: The department had 27 trainees in 2001, including 3 Callender-Binford fellows, for a total of 911 trainee-days.

Educational Aids: The department maintains 3 copies of glass slide study sets, consisting of over 425 slides of exemplary cases in gynecologic and breast pathology, with explanations. All of these slides are less than 4 years old and are available for study by all visitors to the department. The department also maintains 10 copies of a notebook of 20 important references that are recommended reading for each visitor to the department.

RESEARCH

Publications: Members of the department published 1 book chapter and 14 refereed journal articles in 2001. A complete list of references appears at the end of the report.

Projects: The department maintained the following research projects in 2001:

1. Gynecologic Pathology Associated with Tamoxifen
2. Rhabdomyosarcoma and Rhabdoid Tumors of the Uterus
3. Molecular Diagnostics and Genetics of Breast Cancer
4. Expression of Biomarkers in Gynecologic Neoplasms
5. Adenomas of the Breast
6. Myxoid Smooth Muscle Tumors of the Uterus
7. Telomerase Activity and Detection in Non-Neoplastic Breast
8. Carcinomas Arising in Ovarian Adenofibromas
9. Loss of Heterozygosity in Bilateral Breast Carcinoma
10. Mesotheliomas Involving the Ovaries
11. Unique Features of Apocrine Lesions
12. Comparability of Grade 1 Intraductal Carcinoma
13. Male Breast Cancer
14. Bilateral Breast Carcinoma, Molecular Features
15. Multiple Studies on Immunohistochemical and Molecular Features of Mammary Carcinoma Funded by the Department of Defense Breast Cancer Research Program

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

Zhengping Zhuang, Laboratory of Pathology, National Cancer Institute, National Institutes of Health, Bethesda, Md, Molecular Research.

Civilian:

1. Jorge Albores-Saavendra, University of Texas Southwestern Medical School, Molecular Abnormalities Associated with Secretory Carcinomas of the Breast.
2. Carol Bodian, Columbia University Hospital, Statistical Analysis.
3. William Laskin, Department of Pathology, Northwestern University, Mesenchymal Tumors of the Vulva and Vagina.
4. Anirban Maitra, University of Texas Southwestern Medical School, Molecular Abnormalities Associated with Secretory Carcinomas of the Breast.
5. Francisco F. Nogales, Hepatocytic Differentiation in Retiform Sertoli-Leydig Cell Tumors: Distinguishing a Heterologous Element from Leydig Cells.
6. Waldman, Molecular Features of Bilateral Mammary Carcinomas, San Francisco, Calif
C Zaloudek, Inflammatory Myofibroblastic Tumors of the Uterus.

International:

1. Gaeton MacGrogan, Institut Bergonie, Bordeaux, France, Atypical Papillomas of the Breast.
2. Farid Moinfar, University of Graz, Graz, Austria.

Committees: The department chair and several staff members have served on the Education, Research, Library, and Consultation committees.

Other Activities: The department chair participated in the AFIP Conference on Pathology in the New Millennium.

New Missions and Missions Dropped: Due to a shortage of personnel, the department did not give its annual Gyn Course and submitted very few abstracts for presentation at the March 2001 meeting of the US and Canadian Academy of Pathology. We were unable to perform additional research projects and still maintain our consultation and educational goals.

Continuing Education: Department staff received training at the following courses in 2001:

1. US and Canadian Academy of Pathology Meeting
2. Current Issues in Anatomic Pathology

PUBLICATIONS

Journal Articles

1. Tavassoli FA. Ductal intraepithelial neoplasia of the breast. *Virchows Arch.* 2001;438:221-227.
2. Man YG, Kuhls EA, Bratthauer GL, Moinfar F, Tavassoli FA. Multiple use of slab gels in sequencing apparatus for separation of polymerase chain reaction products. *Electrophoresis.* 2001;22:1915-1919.
3. Farshid G, Moinfar F, Meredith DJ, Peiters S, Tavassoli FA. Spindle cell ductal carcinoma in situ: an unusual variant of ductal intra-epithelial neoplasia that simulates ductal hyperplasia or a myoepithelial lesion. *Virchows Archiv.* 2001;439:70-77.
4. Man YG, Moinfar F, Bratthauer GL, Kuhls EA, Tavassoli FA. An improved method for DNA extraction from paraffin sections. *Pathol Res Pract.* 2001;197:635-642.
5. Laskin WB, Fetsch JF, Tavassoli FA. Superficial cervicovaginal myofibroblastoma: fourteen cases of a distinctive mesenchymal tumor arising from the specialized subepithelial stroma of the lower female genital tract. *Hum Pathol.* 2001;32:715-725.
6. Man YG, Mannion C, Kuhls E, Moinfar F, Bratthauer GL, Albores-Saavedra J, Tavassoli FA. Allelic losses at 3p and 11p are detected in both epithelial and stromal components of cervical small-cell neuroendocrine carcinoma. *Applied Immunohistochemistry and Molecular Morphology.* 2001;9:340-345.
7. Silver SA, Devouassoux-Shisheboran M, Mezzetti TP, Tavassoli FA. Mesonephric adenocarcinoma of the uterine cervix: a study of 11 cases with immunohistochemical findings. *Am J Surg Pathol.* 2001;25:379-387.

Book Chapter

Lininger R, Tavassoli FA. Breast. In: Henson DE, Albores-Saavedra J, eds. *Pathology of Incipient Neoplasia*. 3rd ed. New York, NY: Oxford University Press; 2001:chap 15.



Donald E. Sweet, MD
Chair
Date of Appointment — 5 December 1982



DEPARTMENT OF ORTHOPEDIC PATHOLOGY

MISSION

The Department of Orthopedic Pathology provides excellence in orthopedic pathology consultation, education, and research for the Department of Defense, Veterans Affairs, other federal agencies, and civilian pathologists at the national and international level.

STAFF

Medical:

Donald E. Sweet, MD, Chair
Tuyethoa N. Vinh, MD, Assistant Chair
Leonard N. Howard, MAJ, MC, USA, Staff Pathologist
(D) Frank H. Gannon, MD, Staff Pathologist
(D) Marlene DeMaio, CAPT, MC, USN, Orthopedic Surgeon
(A) Francis Mc Guiggen, CDR, MC, USN Orthopedic Surgeon
(A) Arthur Ward, LT CDR, MC, USN, Podiatrist

Scientific:

Arron Jurist, HPC 1, USN

Administrative:

Jean C. Banks, Secretary

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	200
Army	(100)
Navy	(57)
Air Force	(43)
Federal	135
VA	(132)
USHPS	(0)
OFA	(3)
Civilian	(824)
Interdepartmental	(191)
Xray transfers	(160)
Total	1350+

The department completed approximately 1,350 cases: 755 new cases, 295 new sequences (material) on old cases, 191+ intramural consults, and 160 radiologic transfers. There is a discrepancy between the computer-based consultation numbers listed above and the transcribed physical case count. Consultations entailed study of 7,628 x-rays (34,838 radiographic images), 3,673 of which were copied, and examination of 4,3899 contributor slides, 1,112

recuts, and 843 immunohistochemical stains, special stains, and studies. This resulted in rendering 1,159 final, 191 consultative, and an equal number of phone reports, with an average turnaround time of 11 days. These figures do not include an almost equal number of interim and follow-up reports. An estimated 30% of cases had no contributor diagnoses, 36% had no diagnostic change, 25% had minor diagnostic changes, and the remainder had major diagnostic changes. Approximately 79+ gross specimens were studied and dissected, including metabolic bone cases, with the majority being specimen x-rayed. Approximately 60% of the cases represent tumor or tumorlike conditions. The department is especially interested in cases of metabolic bone disease, avascular necrosis, lipomas and related lesions of bone, cortical osteofibrous dysplasia and adamantinoma of long bone, and reactions to prosthetic implants.

Impact:

Mission accomplishments in consultation and education have remained fairly stable, and research accomplishments have been listed for clarification. Notable military-relevant and mission-related activities have been highlighted, as appropriate. Significant changes in our professional staff occurred in 2001, and departmental refurbishing continued.

We continued to provide accurate, timely, and meaningful diagnostic consults in orthopedic pathology, including our histomorphometric metabolic bone evaluation program, and maintained excellence in departmental and nondepartmental courses, despite the September 11, 2001 attack.

We completed development of a fully operational Biomechanical and Musculoskeletal Research Laboratory capable of evaluating military-related biomechanical injuries of active-duty personnel, and designed training, equipment, and activity modifications necessary to eliminate or reduce risk of such injuries. Work began on the Non-neoplastic Bone and Joint Disease fascicle, expanding the radiologic-pathologic correlative concept as currently applied to bone neoplasia.

EDUCATION

The Department of Orthopedic Pathology's annual commitment to education through its courses, presentations, guest lectures, and trainee program provided 1,965 man-days of training during 2001, excluding exhibits and/or posters.

Presentations and Seminars: Department staff made 40 presentations at conferences and educational venues in 2001. Complete titles and dates are listed at the end of this report.

Courses: Department staff conducted 6 courses in 2001, for a total of 1,694 attendee-days and 118 CME hours. We also began development of 4 interdisciplinary (pathology, radiology, and orthopedic surgery) 3-day workshops on bone neoplasia, metabolic bone disease, inflammatory bone disease, and arthritis.

Trainees: Department staff provided training in 2001 for 3 trainees, including visitor study and board preparation for military, federal, and civilian medical students, pathologists, orthopedic surgeons, and fellows, for a total of 64 trainee-days.

Educational Aids:

1. Orthopedic A, B, and C study sets with approximately 280 glass slides and 1,000 2x2s.
2. General Surgical Pathology Course/AFIP Study Set
 - Orthopedic Pathology Study Section (21 glass slides)
 - Radiographic/Pathologic, 3-Part Series: Margins, Matrix, Periosteal Reactions, glass slide study set (25 glass slides).
3. Orthopedic Pathology Learning Center (AFIP), reestablished September 1985 and temporarily relocated in the AFIP/UPS Warehouse, Gaithersburg, Md.

Exhibits:

1. Anatomic Aspects of Aging, National Museum of Health and Medicine (permanent exhibit)
2. Gunshot Wounds: A Historic Perspective, National Museum of Health and Medicine (permanent exhibit)
3. Behind the Scenes: The Case of Private Potter Revisited. Sequestration in Acute Osteomyelitis During the Civil War, National Museum of Health and Medicine (permanent exhibit)
4. Lent C. Johnson Memorial Exhibit Window, Department of Orthopedic Pathology, AFIP (permanent exhibit)
5. Anterior Cruciate Ligament Injuries in Females, Department of Orthopedic Pathology,

AFIP (poster presentation)

RESEARCH

Publications: Department staff published 7 journal articles and 5 syllabi/CD-ROMs in 2001. Complete bibliographic information is listed at the end of this report.

Projects: Our department maintained 6 ongoing research projects in 2001:

1. Conventional and Ossifying Lipoma of Bone
2. Immunohistochemistry of Adamantinoma and COFD
3. The Structure of Articular Cartilage
4. Neuropathic Joint Disease
5. Immunohistochemistry/Clear Cell Chondrosarcoma
6. Body Armor, Head Protection, and Training Injuries

OTHER ACCOMPLISHMENTS

Manuscripts Reviewed: Department staff reviewed articles for the following professional journals in 2001:

1. *American Journal of Sports Medicine*
2. *Cancer*
3. *Clinical Orthopedics and Related Research*
4. *Diagnostic Surgical Pathology*

Faculty Appointments:

1. Georgetown University Medical School, Clinical Professor of Pathology, DE Sweet.
2. Uniformed Services University of the Health Sciences, Clinical Professor of Pathology, DE Sweet.
3. University of Pennsylvania, Associate Professor of Orthopedic Surgery, FH Gannon.
4. Uniformed Services University of the Health Sciences, Assistant Professor of Pathology, FH Gannon.
5. Uniformed Services University of the Health Sciences, Assistant Professor of Surgery, FX McGuiggin.

Continuing Education: Department staff attended meetings of the Society of Military Orthopedic Surgeons, IAP, ASCP/CAP, and the International Skeletal Society, which provided training and information on current research aspects of bone and joint disease.

PRESENTATIONS

1. January 2001: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
2. February 2001: Rockville, Md, OAFME, AFIP, "Staging and Aging Fractures."
3. February 2001: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
4. March 2001: Washington, DC, Georgetown University School of Medicine, "Growth and Development of Bone, and Pathogenesis of Bone Tumors," DE Sweet.
5. March 2001: Washington, DC, Georgetown University School of Medicine, "Metabolic Bone Disease," DE Sweet.
6. March 2001: Washington, DC, Georgetown University School of Medicine, "Circulatory, Inflammatory and Paget's Disease of Bone," DE Sweet.
7. March 2001: Washington, DC, Georgetown University School of Medicine, "Arthritic Disorders of Bone," DE Sweet.
8. April 2001: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
9. May 2001: Bethesda, Md, AFIP General Surgical Pathology Review Course, "Pathogenesis of Primary Bone Tumors and Radiologic/Pathologic Correlation of Solitary Bone Lesions," DE Sweet.
10. June 2001: Milan, Italy, AFIP/ARP Diagnostic Surgical Pathology Course, "Pathogenesis of Primary Bone Tumors and Radiologic/Pathologic Correlation of Solitary Bone Lesions,"

DE Sweet.

11. July 2001: Washington, DC, AFIP, "Skeletal Growth and Development and Mechanisms of Disease," DE Sweet.
12. September 2001: Quebec City, Canada, International Skeletal Society, "Liposclerosing Myxofibrous Tumor," DE Sweet.
13. September 2001: Washington, DC, "Growth and Development, AFIP/ARP Orthopedic Pathology Course and Tutorial, DE Sweet.
14. September 2001: Washington, DC, "Radiologic/Pathologic Correlation of Solitary Bone Lesions," AFIP/ARP Orthopedic Pathology Course and Tutorial, DE Sweet.
15. September 2001: Washington, DC, "Circulatory Disorders of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, DE Sweet.
16. September 2001: Washington, DC, "Fibrous and Cystic Lesions of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, DE Sweet.
17. September 2001: Washington, DC, "Cartilage Lesions of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, DE Sweet.
18. September 2001: Washington, DC, "Anomalies of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, LN Howard.
19. September 2001: Washington, DC, "Infectious Diseases of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, TN Vinh.
20. September 2001: Washington, DC, "Arthritic Disorders of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, TN Vinh.
21. September 2001: Washington, DC, "Metabolic Disorders of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, FH Gannon.
22. September 2001: Washington, DC, "Periarticular and Soft Tissue Tumors," AFIP/ARP Orthopedic Pathology Course and Tutorial, KMS.
23. September 2001: Washington, DC, "Role and Limitations of Pathology," AFIP/ARP Orthopedic Pathology Course and Tutorial, KMS.
24. September 2001: Washington, DC, "Giant Cell, Round Cell, and Vascular Tumors of Bone," AFIP/ARP Orthopedic Pathology Course and Tutorial, DE Sweet.
25. September 2001: Washington, DC, "Unknown Case Discussions and Laboratory Study Sets," AFIP/ARP Orthopedic Pathology Course and Tutorial, FH Gannon, LN Howard, TN Vinh, DE Sweet.
26. October 2001: Ottawa, Canada, "Growth and Development," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
27. October 2001: Ottawa, Canada, "Radiologic/Pathologic Correlation of Solitary Bone Lesions," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
28. October 2001: Ottawa, Canada, "Circulatory Disorders of Bone," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
29. October 2001: Ottawa, Canada, "Fibrous and Cystic Lesions of Bone," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
30. October 2001: Ottawa, Canada, "Cartilage Lesions of Bone," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
31. October 2001: Ottawa, Canada, "Infectious Diseases of Bone," Canadian Orthopedic Pathology Course and Tutorial, TN Vinh.
32. October 2001: Ottawa, Canada, "Arthritic Disorders of Bone," Canadian Orthopedic Pathology Course and Tutorial, TN Vinh.
33. October 2001: Ottawa, Canada, "Metabolic Disorders of Bone," Canadian Orthopedic Pathology Course and Tutorial, KMS.
34. October 2001: Ottawa, Canada, "Osseous Tumors of Bone," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
35. October 2001: Ottawa, Canada, "Giant Cell, Round Cell and Vascular Tumors of Bone," Canadian Orthopedic Pathology Course and Tutorial, DE Sweet.
36. December 2001: "Benign Fibrous and Cystic Lesions of Bone," AFIP Staff Conference, DE Sweet.
37. December 2001: Bethesda, Md, USUHS, "Orthopedic Pathology Course/2001," FH

Gannon.

38. December 2001: "Effectiveness of Chest Body Armor and Concepts for Design," Research Conference, M DeMaio.
39. December 2001: Washington, DC, AFIP, "Ballistics and Body Armor Testing."
40. December 2001: "Closed-Chest Trauma: Evaluation of the Protected Chest," US Army Combat Casualty Care Annual Research Symposium.

PUBLICATIONS:

Journal Articles

1. Muldoon MP, Padgett DE, Sweet DE, Deuster PA, Mack GR. Femoral neck stress fractures and metabolic bone disease. *J Orthop Trauma*. 2001;15:181-185.
2. Gadwal SR, Gannon FH, Fanburg-Smith JC, Becoskie EM, Thompson LD. Primary osteosarcoma of the head and neck in pediatric patients: a clinicopathologic study of 22 cases. *Cancer*. 2001;91:598-605.
3. Murphey MD, Nomikos GC, Flemming DJ, Gannon FH, Temple HT, Kransdorf MJ. From the archives of AFIP. Imaging of giant cell tumor and giant cell reparative granuloma of bone: radiologic-pathologic correlation. *Radiographics*. 2001;21:1283-1309.
4. Mohler ER III, Gannon FH, Reynolds C, Zimmerman R, Keane MG, Kaplan FS. Bone formation and inflammation in cardiac valves. *Circulation*. 2001;103:1522-1528.
5. Kaplan FS, Glaser DL, Shore EM, Emmerson, Mitchell D, Gannon FH. Medical management of fibrodysplasia ossificans progressiva: current treatment considerations. In: *Clinical Proceedings of the Third International Symposium*, FOP. 2001;1:1-52.
6. Gannon FH, Glaser DL, Caron R, Thompson LD, Shore EM, Kaplan FS. Mast cell involvement in fibrodysplasia ossificans progressiva. *Hum Pathol*. 2001;32:842-848.
7. Wieneke JA, Gannon FH, Heffner DK, Thompson LD. Giant cell tumor of the larynx: a clinicopathologic series of eight cases and a review of the literature. *Mod Pathol*. 2001;14:1209-1215.

Other Publications

1. Sweet DE. Radiologic pathologic correlation of solitary bone lesions [syllabus]. AFIP General Surgical Pathology Review Course; May 2001.
2. Sweet DE. Growth and development, manifestations of disease, radiographic margins/periosteal reactions/ matrix patterns and ancillary studies, pathogenesis of osteonecrosis, benign fibrous and cystic lesions of bone, giant cell tumor and aneurysmal bone cyst, and chondromas of bone [syllabus and CD-ROM]. AFIP/ARP; September 2001.
3. Sweet DE. Growth and development, manifestations of disease, radiographic margins/periosteal reactions/matrix patterns and ancillary studies, pathogenesis of osteonecrosis, benign fibrous and cystic lesions of bone, giant cell tumor and aneurysmal bone cyst, and chondromas of bone [syllabus & CD-ROM]. COA Orthopedic Pathology Course; October 2001.
4. Vinh TN, Sweet DE. Infectious disease of bone and joints/pathophysiology of arthritis [syllabus]. AFIP/ARP; September 2001.
5. Vinh TN, Sweet DE. Infectious disease of bone and joints/pathophysiology of arthritis [syllabus & CD-ROM]. COA Orthopedic Pathology Course; October 2001.



Markku Miettinen, MD, PhD
Chair
Date of Appointment — 1 July 1996



SOFT TISSUE PATHOLOGY

MISSION

The Department of Soft Tissue Pathology provides consultations to the United States Armed Forces and federal and civilian contributors worldwide. The department is committed to furthering and distributing knowledge of soft tissue tumors through clinical, pathologic, and molecular genetic research, and through educational presentations.

STAFF

Medical:

- Markku Miettinen, MD, PhD, Chair and Registrar
- Franz M. Enzinger, MD, Chair Emeritus, Visiting Scientist
- William B Laskin, Visiting Scientist
- John F. Fetsch, MD, Assistant Chair
- Julie C. Fanburg-Smith, MD
- Mohammad Nadjem, COL, MC, USA
- Sumitra L. Parekh
- (D) Carl Millward
- Fabrizio Remotti

Scientific:

- Jerzy Lasota, MD, PhD, Research Pathologist
- (A) Mourad Majidi, PhD, Research Scientist
- Virginia Achstetter, Senior Laboratory Technician

Fellows:

- (D) Bartosz Wasag
- (A) Janusz Kopzynski
- (D) Edina Paal
- (A) Hala Makhoulf

Administrative:

- Charmaine Howard, Secretary
- (A) Vera Pettus
- (A) Cynthia Ordinario

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	463
Army	191
Navy	128
Air Force	144
Federal	273
VA	324
OFA	8
Civilian	1,481
Interdepartmental	1,022
TOTAL	3,298

1,049 cases for consultation, 281 for education, and 217 for research required the following types of procedures and analyses:

- H&E stains: 4,720 slides
- Special stains: 380 slides
- Immunohistochemical staining: 9,240 slides
- Electron microscopy: 3 cases
- Molecular biology examination: 142 tests for 88 cases
- Total recuts studied: 17,959
- Total contributor slides studies: 13,706

During 2001, we continued to upgrade the consultation service. The number of military, federal, and civilian consultations remained essentially unchanged.

Over 50 new antibodies were tested in the developmental lab. Among them were 25 antibodies to keratins covering 15 different keratin polypeptides, antibodies to cell cycle control proteins p16, p21, and p27. We also tested a new histiocytic marker, CD163, and a neural marker, alpha-internexin, both of which are potentially good clinical markers. The department continued to provide specifically designed multitumor blocks for controls for the immunohistochemistry laboratory.

Impact:

1. We established a correlation between mitotic frequency, tumor size, and tumor behavior for gastrointestinal stromal tumors of the rectum in the largest published series (132 cases).
2. We described several new tumor entities: leiomyoma of the muscularis mucosae of colon and rectum, retroperitoneal leiomyoma, neurofibroma with dendritic cells, superficial acral fibromyxoma, and superficial cervicovaginal myofibroblastoma.
3. We reported, for the first time, missense mutations in the NF2 gene in sclerosing perineurioma, a soft tissue tumor described by members of our department years ago.
4. We analyzed a large series of metastatic melanomas for 5 different markers, concluding that tyrosinase, melanA, and microphthalmia transcription factor are effective new markers.

EDUCATION

Presentations and Seminars: Department staff gave 24 presentations at professional meetings, symposia, and the Institute. A complete list of dates and titles appears at the end of this report.

Courses: Members of the department presented in AFIP courses locally and internationally, including those held in Washington, DC, Bethesda, and Silver Spring. We also gave a 3-day microscopy workshop on soft tissue tumors.

Trainees: During 2001, 9 trainees, including 3 full-time Callender-Binford fellows, attended the department, for a total of 720 trainee-days. Residents from various programs of military and civilian institutions rotated within the department, and military and civilian visitors

reviewed teaching material or participated in collaborative research programs.

RESEARCH

Publications: Department staff published 28 journal articles and 9 abstracts in 2001. Full references are listed at the end of this report.

Projects: Sixteen approved research projects were conducted, including analysis of specific subsets of smooth muscle and gastrointestinal stromal tumors, and vascular, lipomatous, and nerve sheath tumors. These projects included histologic, immunophenotypic, and molecular genetic characterization of the examined tumors, with emphasis on the data synthesis to increase understanding of their biologic nature to benefit diagnosis, treatment, and possible tumor prevention. Numerous multitumor blocks and tumor arrays were prepared to support departmental research and interdepartmental collaboration. Results of the research on tumor phenotyping and mutation studies provided new tools that were directly applied on consultation practice.

OTHER ACCOMPLISHMENTS

Collaborators:

Civilian:

1. W Laskin, Northwestern University, Chicago, Ill.
2. A Folpe and S Weiss, Emory University, Atlanta, Ga.
3. W El-Rifai, University of Virginia, Charlottesville, Va.
4. J Lee, VA Hospital, Augusta, Ga.

International:

1. M Sarlomo-Rikala and A Paetau, Department of Pathology, Haartman Institute, University of Helsinki, Finland.
2. J Limon, Department of Genetics, Medical Academy of Gdansk, Poland.
3. M Michal, Department of Pathology, Karlova University of Pilsen, Czech Republic.
4. J Rys, Department of Pathology, Marie Skłodowska-Curie Institute, Krakow, Poland
5. R Kordek, Department of Pathology, Medical University of Lodz, Poland
6. R Scheider-Stock, Department of Pathology, University of Magdeburg, Germany
7. A Roessner, Department of Pathology, University of Magdeburg, Germany

Intramural:

1. T O'Leary, Department of Cellular Pathology.
2. L Sobin, Division of Gastrointestinal Pathology.
3. F Gannon, Department of Orthopedic Pathology.
4. L Thompson, Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology.
5. D Frost, Department of Veterinary Pathology.
6. WD Travis, Department of Pulmonary Pathology
7. H Mena and E Rushing, Department of Neuropathology and Ophthalmic Pathology

Editorial Boards:

M Miettinen:

1. *Human Pathology*
2. *Virchows Archiv*
3. *Annals of Diagnostic Pathology*
4. *Applied Immunohistochemistry*
5. *Pathology Research and Practice*
6. *Journal of Urologic Pathology*
7. *American Journal of Surgical Pathology*

J Fanburg-Smith:

1. *Annals of Diagnostic Pathology*
2. *USCAP Annual Meeting Abstracts*

Manuscripts Reviewed: Members of the department reviewed 60 articles for pathology journals and related specialties.

Committees:

1. Registrar's Forum, ARP—M Miettinen
2. Organization Committee for the Annual Anatomic Pathology Course—JC Fanburg-Smith
3. AFIP Research Committee—M Miettinen
4. ARP Research Committee—M Miettinen
5. IRB Committee—JC Fanburg-Smith
6. IRB Committee—F Remotti

Faculty Appointments:

1. University of Helsinki, Finland, Adjunct Professor of Pathology— M Miettinen
2. Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pa, Adjunct Professor of Pathology, Anatomy and Cell Biology—M Miettinen
3. Johns Hopkins University, Baltimore, MD, Lecturer—JC Fanburg-Smith
4. Department of Pathology, Uniformed Services University of the Health Sciences (USUHS)—F Edward Hebert School of Medicine, Instructor in Pathology – JC Fanburg-Smith
5. Georgetown University Medical Center, Department of Pathology, Adjunct Associate Professor – JC Fanburg-Smith

Awards:

Certificate of merit, Stowell Orbison Award, at US/CAP meeting in Atlanta, Ga, March 5, 2001, for poster presentation: Hiatt KM, Nelson AM, Lichy JH, Fanburg-Smith JC. Classic Kaposi sarcoma over the last two decades: a clinicopathologic and molecular study of 438 HIV-negative patients.

PRESENTATIONS

1. March 2001: Atlanta, Ga, US-Canadian Academy of Pathology, "The neurofibromatosis type (NF2) gene is mutated in perineurial cell tumors: a molecular genetic study of 8 cases," J Lasota.
2. April 2002: Bethesda, Md, NIH Consensus Conference on GISTs, "Pathology of gastrointestinal stromal tumors," M Miettinen.
3. May 2001: Warsaw, Poland, Marie Skłodowska-Curie Oncological Institute, "Molecular pathology of soft tissue tumors," J Lasota.
4. May 2001: San Antonio, Tex, Wilford Hall, San Antonio Pathology Society, lecturer on soft tissue tumors, JC Fanburg-Smith.
5. May 2001: Washington, DC, Armed Forces Institute of Pathology, General Surgical Pathology AFIP Conference, "Fibrous tumors and selected neural and vascular tumors," JC Fanburg-Smith.
6. May 2001: Silver Spring, Md, 11th Annual Anatomic Pathology Course, "Peripheral nerve sheath tumors," M Furlong.
7. May 2001: Silver Spring, Md, 11th Annual Anatomic Pathology Course, "Vascular tumors," C Millward.
8. May 2001: Silver Spring, Md, 11th Annual Anatomic Pathology Course, "Skeletal, smooth muscle and lipomatous tumors," S Parekh.
9. May 2001: Silver Spring, Md, 11th Annual Anatomic Pathology Course, "Fibrous tumors and tumors of uncertain phenotype," F Remotti.
10. May 2001: Silver Spring, Md, 11th Annual Anatomic Pathology Course, "Immunohistochemistry of soft tissue tumors," M Miettinen.
11. September 2001: Helsinki, Finland, "Update on pathology of gastrointestinal stromal tumors," Second International Symposium on GIST, M Miettinen.
12. September 2001: Quebec City, Canada, International Skeletal Society Meeting, "Tumoral calcinosis," JC Fanburg-Smith.
13. September 2001: Washington, DC, Soft Tissue Tumors, Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "Update on synovial sarcoma and epithelioid sarcoma," JF Fetsch.

14. September 2001: Washington, DC, Soft Tissue Tumors, Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "Epithelioid vascular tumors," JF Fetsch.
15. September 2001: Washington, DC, Soft Tissue Tumors. Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "New markers for soft tissue tumors," M Miettinen.
16. September 2001: Washington, DC, Soft Tissue Tumors. Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "Update on gastrointestinal stromal and smooth muscle tumors," M Miettinen.
17. September 2001: Soft Tissue Tumors. Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "Molecular diagnosis of soft tissue tumors - practical approach," J Lasota.
18. September 2001: Washington, DC, Soft Tissue Tumors, Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "Update on cartilage and bone forming tumors," JC Fanburg-Smith.
19. September 2001: Washington, DC, Soft Tissue Tumors, Third Annual Microscopy Workshop, Department of Soft Tissue Pathology, AFIP, "Benign vs malignant nerve sheath tumors," JC Fanburg-Smith.
20. September 2001: Silver Spring, Md, Soft Tissue Tumors, A microscopy Workshop, Lectures and Microscopy Sessions, All faculty.
21. October 2001: Houston, Tex, University of Texas at Houston, "Gastrointestinal stromal tumors - KIT growth factor receptor turned into oncogene," M Miettinen.
22. November 2001: Tuusula, Finland, Finnish Division of the International Academy of Pathology, "Gastrointestinal stromal tumors: definition, pathology, pathogenesis, and differential diagnosis," M Miettinen.
23. November 2001: Helsinki, Finland, University of Helsinki, Seminar on Soft Tissue Tumors, M Miettinen.
24. November 2001: Helsinki, Finland, University of Helsinki, "Synovial sarcoma: expression of a wide spectrum of epithelial and mesothelial markers," M Miettinen.

PUBLICATIONS

Journal Articles

1. Debiec-Rychter M, Lasota J, Sarlomo-Rikala M, Kordek R, Miettinen M. Chromosomal aberrations in malignant gastrointestinal stromal tumors: correlation with C-KIT gene mutation. *Cancer Genet Cytogenet.* 2001;128:24-30.
2. Fanburg-Smith JF, Miettinen M. Low-affinity nerve growth factor in dermatofibrosarcoma protuberans and schwannian and neural tumors: a study of 1130 tumors. *Hum Pathol.* 2001;32:976-983.
3. Fetsch JF, Laskin WB, Miettinen M. Superficial acral fibromyxoma: a clinicopathologic and immunohistochemical analysis of 37 cases of a distinctive soft tissue tumor with a predilection for the fingers and toes. *Hum Pathol.* 2001;32:704-714.
4. Folpe AL, Fanburg-Smith JC, Miettinen M, Weiss SW. Atypical and malignant glomus tumors: analysis of 52 cases, with a proposal for the reclassification of glomus tumors. *Am J Surg Pathol.* 2001;25:1-14.
5. Furlong MA, Fanburg-Smith JC. Pleomorphic rhabdomyosarcoma in children: four cases in the pediatric age group. *Ann Diagn Pathol.* 2001;5:199-206.
6. Furlong MA, Mentzel T, Fanburg-Smith JC. Pleomorphic rhabdomyosarcoma in adults: a clinicopathologic study of 38 cases with emphasis on morphologic variants and recent skeletal muscle specific markers. *Mod Pathol.* 2001;14:595-603.
7. Furlong MA, Fanburg-Smith JC, Miettinen M. The morphologic spectrum of hibernoma: a clinicopathologic study of 170 cases. *Am J Surg Pathol.* 2001;25:809-814.
8. Gadwal SR, Gannon FH, Fanburg-Smith JC, Becoskie EM, Thompson LD. Primary osteosarcoma of the head and neck in pediatric patients: a clinicopathologic study of 22 cases. *Cancer.* 2001;91:598-605.
9. Kiuru-Kuhlefelt S, El-Rifai W, Fanburg-Smith JC, Kere J, Miettinen M, Knuutila S. Concomitant DNA copy number amplification at 17q and 22q in dermatofibrosarcoma protuberans. *Cytogenet Cell Genet.* 2001;92:192-195.

10. Laskin WB, Fetsch JF, Tavassoli FA. Superficial cervicovaginal myofibroblastoma: fourteen cases of a distinctive mesenchymal tumor arising from the specialized subepithelial stroma of the lower female genital tract. *Hum Pathol.* 2001;32:715-725.
11. Lasota J, Fetsch JF, Wozniak A, Wasag B, Sciort R, Miettinen M. The neurofibromatosis type 2 gene is mutated in perineurial cell tumors: a molecular genetic study of eight cases. *Am J Pathol.* 2001;158:1223-1229.
12. Lee JR, Joshi V, Griffin JW, Lasota J, Miettinen M. Gastrointestinal autonomic nerve tumor: immunohistochemical and molecular genetic identity with gastrointestinal stromal tumors. *Am J Surg Pathol.* 2001;25:979-987.
13. Michal M, Fanburg-Smith JC, Mentzel T, Kuzner H, Requena L, Zamecnik M, Miettinen M. Dendritic cell neurofibroma with pseudorosettes: a report of 18 cases of a distinct and hitherto unrecognized neurofibroma variant. *Am J Surg Pathol.* 2001;25:587-594.
14. Miettinen M, Fernandez M, Franssila K, Gatalica Z, Lasota J, Sarlomo-Rikala M. Microphthalmia transcription factor in the immunohistochemical diagnosis of metastatic melanoma: comparison with four other melanoma markers. *Am J Surg Pathol.* 2001;25:205-211.
15. Miettinen M, Sarlomo-Rikala M, Sobin LH, Lasota J. Gastrointestinal stromal tumors of the rectum: a clinicopathologic, immunohistochemical and molecular genetic study of 144 cases. *Am J Surg Pathol.* 2001;25:1121-1133.
16. Miettinen M, Lasota J. Gastrointestinal stromal tumors—definition, clinical, histological, immunohistochemical, and molecular genetic features and differential diagnosis. *Virchows Arch.* 2001;438:1-12.
17. Miettinen M, Limon J, Niezabitowski A, Lasota J. Calretinin and other mesothelioma markers in synovial sarcoma: analysis of antigenic similarities and differences with malignant mesothelioma. *Am J Surg Pathol.* 2001;25:610-617.
18. Miettinen M, Sarlomo-Rikala M, Sobin LH. Mesenchymal tumors of muscularis mucosae of colon and rectum are benign leiomyomas that should be separated from gastrointestinal stromal tumors: a clinicopathologic and immunohistochemical study of eighty-eight cases. *Mod Pathol.* 2001;14:950-956.
19. Miettinen M, Shekitka KM, Sobin LH. Schwannomas in the colon and rectum: a clinicopathologic and immunohistochemical study of 20 cases. *Am J Surg Pathol.* 2001;25:846-855.
20. Miettinen M, Sobin LH. Gastrointestinal stromal tumors in the appendix: a clinicopathologic and immunohistochemical study of four cases. *Am J Surg Pathol.* 2001;25:1433-1437.
21. Miettinen M. Are desmoid tumors kit positive[letter]? *Am J Surg Pathol.* 2001;25:549-550.
22. Neuhauser TS, Derringer GA, Thompson LD, Fanburg-Smith JC, Aguilera NS, Andriko J, Chu W-S, Abbondanzo SL. Splenic inflammatory myofibroblastic tumor (inflammatory pseudotumor): a clinicopathologic and immunophenotypic study of 12 cases. *Arch Pathol Lab Med.* 2001;125:379-385.
23. Ozdemirli M, Fanburg-Smith JC, Hartmann DP, Azumi, N, Miettinen M. Differentiating lymphoblastic lymphoma and Ewing's sarcoma: lymphocyte markers and gene rearrangement. *Mod Pathol.* 2001;14:1175-1182.
24. Paal E, Miettinen M. Retroperitoneal leiomyomas: a clinicopathologic and immunohistochemical study of 56 cases with a comparison to retroperitoneal leiomyosarcomas. *Am J Surg Pathol.* 2001;25:1355-1363.
25. Remotti F, Fetsch JF, Miettinen M. Keratin 1 expression in endothelia and mesenchymal tumors: an immunohistochemical analysis of normal and neoplastic tissues. *Hum Pathol.* 2001;32:873-879.
26. Michal M, Fanburg-Smith J, Mentzel T, Kutzner H, Requena L, Zamecnik M, Miettinen M. Dendritic cell neurofibroma with pseudorosettes: two tumors in a patient with evidence of neurofibromatosis [letter]. *Am J Surg Pathol.* 2001;25:1458-1459.
27. Tarkkanen M, Wiklund TA, Virolainen MJ, Larramendy ML, Mandahl N, Mertens F, Blomqvist CP, Tukiainen EJ, Miettinen M, Elomaa I, Knuutila YS. Comparative genomic hybridization of postirradiation sarcomas. *Cancer.* 2001;92:1992-1998.
28. Thompson LDR, Fanburg-Smith JC, Wenig BM. Nodular fasciitis of the external ear region: a clinicopathologic study of 50 cases. *Ann of Diagn Pathol.* 2001;5:191-198.

Abstracts

1. Beasley MB, Fanburg-Smith JC, Fujii T, Travis WD. Calretinin staining in synovial sarcoma: a potential pitfall in pleural biopsy interpretation. *Mod Pathol.* 2001;14:217A. Abstract 1277.
2. Fetsch JF, Laskin WB, Miettinen M. Superficial acral fibromyxoma: a clinicopathologic and immunohistochemical analysis of 37 cases of a distinctive soft tissue tumor with a predilection for the fingers and toes. *Mod Pathol.* 2001;14:12A. Abstract 47.
3. Furlong MA, Fanburg-Smith JC, Miettinen M. A morphologic and clinicopathologic study of 170 cases of hibernoma. *Mod Pathol.* 2001;14:12A. Abstract 50.
4. Hiatt KM, Nelson AM, Lichy JH, Fanburg-Smith JC. Classic Kaposi sarcoma over the last two decades: a clinicopathologic and molecular study of 438 HIV-negative patients. *Mod Pathol.* 2001;14:13A. Abstract 54.
5. Lasota J, Fetsch JF, Wozniak A, Wasag B, Sciort R, Miettinen M. Neurofibromatosis type 2 (NF2) gene is often mutated in perineurial cell tumors (PNTs). *Mod Pathol.* 2001;14:14A. Abstract 63.
6. Lee J, Lasota J, Miettinen M. Gastrointestinal autonomic nerve tumor (GANT): molecular identity with gastrointestinal stromal tumor (GIST). *Mod Pathol.* 2001;14:90A. Abstract 515.
7. Michal M, Fanburg-Smith JC, Mentzel T, Kutzer H, Requena L, Zamecnik M, Miettinen M. Cutaneous neurofibroma with pseudorosettes and dendritic schwann cells: a report of 18 cases of a hitherto unrecognized tumor. *Mod Pathol.* 2001;14:16A. Abstract 71.
8. Millward CL, Miettinen M. Neural cell adhesion molecule (CD56) expression in mesenchymal tumors. *Mod Pathol.* 2001;14:16A. Abstract 72.
9. Remotti F, Fetsch JF, Miettinen M. Keratin 1 expression in endothelia and mesenchymal neoplasia. *Mod Pathol.* 2001;14:18A. Abstract 85.

GROUP 2

HEART, LUNG & AERODIGESTIVE DISEASES

CARDIOVASCULAR PATHOLOGY

ENDOCRINE AND OTORHINOLARYNGIC/
HEAD-NECK PATHOLOGY

HEPATIC & GASTROINTESTINAL
PATHOLOGY

ORAL & MAXILLOFACIAL PATHOLOGY

PULMONARY & MEDIASTINAL PATHOLOGY





Renu Virmani, MD
Chair
Date of Appointment—2 September 1984



DEPARTMENT OF CARDIOVASCULAR PATHOLOGY

MISSION

The Department of Cardiovascular Pathology supports the mission of the Armed Forces Institute of Pathology by providing consultation, education, and research on the cardiovascular system and its pathological conditions for the active military force, the Department of Veterans Affairs, and other federal and civilian agencies.

STAFF

Medical:

- Renu Virmani, MD
- Allen Burke, MD
- Andrew Farb, MD
- Frank D. Kolodgie, PhD
- Robert Kutys, MS (A)
- Erik Mont, MD
- Herman Gold, MD

Scientific:

- Wendy Creighton, MD, Research Scientist
- You-hui Liang, MD, Research Assistant
- Helwig Avallone, Histopathology Laboratory Supervisor
- Heng-jing Ouyang, MD, Histopathology Technician
- Xin Xu, Histopathology Technician
- Russell M. Jones, Research Associate
- Lila Adams, Research Assistant
- Patricia S. Wilson, Research Assistant
- Michael John, Research Assistant
- Deena Weber, Research Assistant
- Leslie Keefer, Histopathology Technician (D)
- Sweta Shroff, MS, Research Assistant
- Kimberly Trent, Histopathology Technician
- Rosalind Matthew, Histopathology Technician
- Jinky Rivera, Histopathology Technician
- Abebe Atiso, Histopathology Technician
- Eduardo Acampado, Research Associate

Administrative:

- (A) Leslie Middleton, Administrative Assistant
- Carol Ward, MSG, USA (Ret)

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	
Army.....	28
Navy.....	18
Air Force.....	17
Federal	
VA.....	53
OFA.....	6
Civilian	710
Interdepartmental	97
Total	929

The department sees many complex cases sent as gross tissue without prior diagnosis from the contributing pathologist. In 2001, we received 513 cases as gross hearts, each requiring several hours of dissection, and submission of several blocks, often requiring gross photography and special stains. Of these, 148 included a detailed study of the coronary tree, 32 included bypass grafts, and 43 cases included a detailed study of the conduction system, requiring special staining of dozens of slides each. There were 49 vascular implants studied histologically, necessitating plastic embedding and special sectioning procedures. There were 16 temporal artery biopsies, many of which required serial sectioning, and 25 heart tumors requiring extensive immunohistochemical studies. The remaining several hundred cases represented a variety of lesions, many of which included entire autopsy slides to review.

Many of the total 929 cases required special procedures and stains supplied by the cardiovascular and scientific laboratories:

- H&E and histochemical stains (19,431, cardiovascular lab; 4,180 routine, 1,603 specials, central lab)
- Immunostains (169 slides, central lab; 4,940 cardiovascular lab)
- Electron microscopy (17)
- Molecular biology examination (22 for 9 cases)

Impact:

—The number of vascular interventions performed in the United States is increasing and is over one million per year. Our laboratory is on the forefront of pathologic analysis of vascular implants and the tissue reactions to these. We are continuing to explore the mechanisms of restenosis and stent failure, and have proposed that arterial injury and inflammation are important mediators of restenosis. Our preclinical stent research program has investigated multiple novel stent designs and drug coating designed to enhance biocompatibility and reduce in-stent neointimal growth. Our stent laboratory employs methods that allow for evaluation of tissue reaction and preserve antigens for successfully performing immunohistochemistry.

—The Department of Cardiovascular Pathology performs clinical research that complements our consultative role in defining the causes and mechanisms of sudden cardiac death. We continue to study the pathologic substrates of sudden coronary death, and the role of risk factors in plaque composition and coronary remodeling. We have continued to apply our classification system of coronary arterial lesions to imaging of coronary lesions and pathophysiology of coronary atherosclerosis. We are further defining the cellular composition, risk factors, and matrix composition related to the cellular processes involved in coronary thrombosis, and are collaborating with Tom Wight (Seattle) and Giulio Gabbiani (Geneva) on furthering our understanding of the role of extracellular matrix and specific markers of smooth muscle cells to better understand the plaque substrate. We are also investigating clotting factors and polymorphisms that may represent risk factors for coronary death. We have published data regarding the role of calcification in plaque instability, inflammation, and vascular remodeling. We are trying to correlate serum high-sensitivity C-reactive protein with plaque instability. We are beginning to apply confocal microscopy to the study of myocardial injury, coronary disease, and cardiomyopathy, and are studying viral etiologies of inflammatory cardiomyopathies using molecular techniques.

EDUCATION

Presentations and Seminars: Members of the department conducted over 50 seminars, nationally and abroad. A complete list of dates and titles appears at the end of this report.

Our department conducted weekly microscopic conferences reviewing cases and research results with staff and invited visitors. We provided clinicopathologic conferences at the Maryland Medical Examiner's Office (monthly), Howard University (bimonthly), Walter Reed Army Medical Center Cardiology (monthly), Georgetown University (quarterly), Veterans Affairs Hospital in Washington, DC (quarterly), and the Washington Hospital Center (monthly). Slide seminars and lectures were given to Walter Reed Pathology (1) and at the National Naval Medical Center (1).

Courses: Members of our department conducted or participated in 2 courses in 2001:

1. Surgical Pathology of the Heart, US and Canadian Academy of Pathology, Atlanta, A Burke, R Virmani.
2. Update and Review of Anatomic Pathology, AFIP, A Burke, lecturer.

Trainees: Callender-Binford Fellow (365 days), medical student Red Cross volunteer (60 days), 2 Red Cross volunteer research visitors (251 and 144 days), ARP/AFIP resident fellowship (21 days).

RESEARCH

Publications: Members of our department published 27 journal articles, 4 book chapters, and presented 13 abstracts. Complete bibliographic information is listed at the end of this report.

Projects: The department maintains 23 AFIP-approved research protocols and 1 education protocol. Two research projects have a direct impact on military readiness: (1) a study of sudden death in military recruits, and (2) a collaboration with Oregon Medical Center to develop elastic grafts for the treatment of combat casualties.

Non-AFIP/ARP Research Funds Received:

1. Cholesterol and Plaque Rupture, NIH/NHLBI, \$720,000 (\$180,000 yearly, 1998-2002) — Virmani, PI.
2. Battlefield Surgical Tissue Replacement and Repair Using an Elastin Biomaterial Deployed Via Dye-Targeted Laser Fusion, Earle A. Chiles Research Institute, Oregon Medical Laser Center, Portland, Ore, March 1997 - February 2003, 5%. \$100,000/year KW Gregory, PI.

In addition, we received \$ 1,457,957.28 from the following private companies to support research in stents and other cardiovascular interventions:

1. WL Gore & Associates - Palo Alto, Calif
2. SciMed Life Systems, Inc. - Maple Grove, Minn
3. Advanced Cardiovascular Systems/Guidant Corp. - Santa Clara, Calif
4. TransVascular Inc. - Menlo Park, Calif
5. Pharmasonics, Inc. - Sunnyvale, Calif
6. Sorin Biomedica- Saluggia, Italy
7. Prolifix -Sunnyvale, Calif
8. AVE - Santa Rosa, Calif
9. Boston Scientific - Watertown, Mass
10. B Braun Corp -Germany
11. American Bio Science - Santa Monica, Calif
12. Appriva Medical - Sunnyvale, Calif
13. Cardiovascular Research Institute - DC
14. Cordis - Warren, NJ
15. Impulse Dynamics - Tucson, Ariz
16. Kensey Nash - Exton, Pa
17. Kriton Medical - Sacramento, Calif
18. Martin Laser - Wuerzburg, Germany
19. MD3 - San Diego, Calif

20. MedNova - Galway, Ireland
21. MicroVena - White Bear Lake, Minn
22. Mind Guard - Israel
23. Novartis - Summit, NJ
24. Oregon Medical Laser - Portland, Ore
25. Paracor Surgical - Sunnyvale, Calif
26. Rhode Island Hospital - Providence, RI
27. Stereotaxis - Maple Grove, Minn
28. St. Paul Heart & Lung - St. Paul, Minn
29. Stanford University - Stanford, Calif
30. Thoratic - Pleasanton, Calif
31. Vascular Concepts - London, England
32. VenPro - Santa Ana, Calif 33. JOMED - Germany

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Florabel Mullick, SES, Drug-Induced Cardiac Pathology
2. Allen Taylor, MAJ, MC, USA, Endovascular Stenting, Coronary Artery Disease
3. John Tighe, MAJ, MC, USA, Cardiology/Intravascular Ultrasound
4. Timothy O'Leary, PhD, Molecular Biology
5. David Gillespie, LtCol, USA, Vascular Surgery
6. Mei Sheng, PhD, Molecular Biology

Civilian:

1. Steven Schwartz, Vascular Pathology
2. Andrew Carter, Endoluminal Stenting
3. Jung-Ling Yuan, Apoptosis
4. David Dichek, Gene Transfer
5. Arthur Zieske, Lipid Studies
6. John Smialek, Forensic Pathology
7. Thomas Wight, Proteoglycans
8. Jacob Varghese, Coronary Atherosclerosis
9. Herman Gold, Interventional Cardiology
10. William Edwards, Cardiovascular Pathology
11. Stephen Oesterle, Interventional Cardiology
12. Augusto Pichard, Interventional Cardiology
13. Jagat Narula, Nuclear Cardiology, Cardiac Physiology
14. Louis Fink, Homocysteine and Risk Factors
15. Neil Weissman, Intravascular Ultrasound
16. Robert Schwartz, Endovascular Stents
17. Victor Ferrans, Ultrastructural Cardiology
18. Steven Ramee, Endovascular Stents
19. Mun Hong, Endovascular Stenting
20. Gary Mintz, Intravascular Ultrasound
21. Richard Gallo, Cardiac Angiogenesis
22. Henry Tazelaar, Cardiopulmonary pathology

International:

1. Douglas Scott, Endoluminal Stenting
2. Virginia Walley, Atherosclerosis and Stenting

3. Eloisa Arbustini, Cardiac Pathology, Genetic Diseases
4. Max Sangiorgi, Coronary Artery Disease and Interventions
5. G. Gabbiani, Smooth Muscle Cell Biology

Committees:

Editorial Boards:

R Virmani:

1. *Human Pathology*
2. *Modern Pathology*
3. *Circulation*
4. *Journal of Invasive Cardiology*
5. *Cardiovascular Pathology*
6. *Pathology Case Review*
7. *Cardiovascular Radiation Medicine*
8. *American Journal of Pathology*

A Burke:

Pathology

Manuscripts Reviewed: Members of the department reviewed 131 articles for the following professional Journals:

1. *Journal of the American College of Cardiology*
2. *American Journal of Clinical Pathology*
3. *Laboratory Investigation*
4. *Human Pathology*
5. *Modern Pathology*
6. *Circulation*
7. *Cardiovascular Pathology*
8. *Pathology Case Review*
9. *Cardiovascular Radiation Medicine*
10. *Archives of Pathology and Laboratory Medicine*
11. *Mayo Clinic Proceedings*
12. *American Journal of Pathology*
13. *Cardiovascular and Interventional Radiology*
14. *American Journal of Cardiology*
15. *Journal of Respiratory Distress*
16. *New England Journal of Medicine*
17. *Lancet*
18. *Atherosclerosis, Arteriosclerosis, Thrombosis, and Vascular Biology*

Faculty Appointments:

R Virmani:

1. Georgetown University, Clinical Professor, Department of Pathology
2. University of Maryland-Baltimore, Clinical Professor, Department of Pathology
3. Uniformed Services University of the Health Sciences, Clinical Professor, Department of Pathology
4. George Washington University, Clinical Professor, Department of Pathology
5. Vanderbilt University, Nashville, Tenn, Clinical Research Professor, Department of Pathology

A Burke:

1. Georgetown University, Adjunct Professor of Pathology
2. Uniformed Services University of the Health Sciences, Clinical Associate Professor

A Farb:

1. Uniformed Services University of the Health Sciences, Clinical Assistant Professor of Pathology
2. Georgetown University Medical Center, Clinical Assistant Professor of Medicine (Cardiology) and Pathology

Official Trips:

1. January 2001, Cardiovascular Pathology, Massachusetts General Hospital (MGH), Boston, Mass, R Virmani (MGH).
2. January 2001, Medtronic AVE (AVE) Meeting, Santa Rosa, Calif, R Virmani (AVE).
3. January 2001, University of Arkansas Cardiology Grand Rounds, Little Rock, Ark, R Virmani (Univ. of Arkansas).
4. January 2001, 7th International Local Drug Delivery Meeting and Cardiovascular Course on Radiation and Molecular Strategies (LDDR), Geneva, Switzerland, R Virmani (LDDR).
5. March 2001, JIM Symposium, Rome, Italy, R Virmani (Guidant).
6. March 2001, United States and Canadian Academy of Pathology, Atlanta, Ga, R Virmani (USCAP).
7. March 2001, United States and Canadian Academy of Pathology, Atlanta, Ga, R Virmani (USCAP).
8. March 2001, Interventional Cardiology Meeting, Aspen, Colo, R Virmani (Pharmasonics).
9. March 2001, American College of Cardiology Meeting, Orlando, Fla, A Farb (AFIP).
10. March 2001, American College of Cardiology Meeting, Orlando, Fla, A Burke (AFIP).
11. March 2001, American College of Cardiology Meeting, Orlando, Fla, R Virmani (AFIP).
12. March 2001, The University of Vermont, Burlington, Vt, R Virmani (Univ. of Vermont).
13. April 2001, Cardiology Grand Rounds at Temple University, Philadelphia, Pa, R Virmani (Temple).
14. May 2001, EURO PCR 2001 Revascularization Course, Paris, France, R Virmani (EURO PCR Organizing Committee).
15. June 2001, Mount Sinai Medical Center, New York, NY, R Virmani (Mount Sinai).
16. June 2001, International Endovascular Peripheral Course, Monte Carlo, Monaco, R Virmani (Guidant).
17. June 2001, 4th International Meeting on Interventional Cardiology, London, England, R Virmani (Pharmasonics).
18. July 2001, XVII World Congress International Society for Heart Research Meeting, Frontiers in Cardiovascular Health, Winnipeg, Canada, R Virmani (XVII ISHR World Heart Congress).
19. June 14-15, 2001 Third International Expert Meeting of Vascular Calcifications, Wittenberg, Germany, A Burke (Leucorea Institute).
20. August 2001, 2001 Cardiac Society of Australia and New Zealand Annual Scientific Meeting, Auckland, New Zealand, R Virmani (Organizing Committee of the Meeting).
21. August 2001, Clinical Meeting, Dusseldorf, Germany, R Virmani (TransVascular).
22. September 2001, ARCHER Coordinators Meeting, Dallas, Tex, R Virmani (Guidant).
23. September 2001, CIRSE - 2001 Annual Meeting and Postgraduate Course of Cardiovascular and Interventional Radiological Society of Europe, Gothenburg, Sweden, R Virmani (CIRSE).
24. September - October 2001, XXVIII Argentine Congress of Cardiology, Buenos Aires, Argentina, R Virmani (Congress Organizing Committee).
25. October 2001, Vulnerable Plaque Conference, Cambridge, Mass, R Virmani (CIMIT).
26. October 2001, Complex Catheter Therapeutics Japan, Kobe, Japan, R Virmani (Guidant, CCT Organization Committee).
27. October 2001, The Italian Society of Invasive Cardiology (GISE), Milan, Italy, R Virmani (GISE 2001).
28. November 2001, Chest 2001 Philadelphia, Pa, A Burke, (Chest 2001).
29. November 2001, American Heart Association Meeting, Anaheim, Calif, R Virmani (ARP).
30. November 2001, American Heart Association Meeting, Anaheim, Calif, A Farb (ARP).

31. November 2001, American Heart Association Meeting, Anaheim, Calif, A Burke (ARP).
32. November – December 2001, 53rd Annual Conference of Cardiological Society of India, Hyderabad, India, R Virmani (Guidant).

Continuing Education:

Staff members attended training courses at the following venues in 2001:

1. Meeting of the American College of Cardiology, New Orleans
2. American Heart Association Meeting, Anaheim
3. US-Canadian Society of Pathology Meeting, Atlanta

PRESENTATIONS

1. January 2001: Little Rock, Ark, University of Arkansas, “Cardiology Grand Rounds,” R Virmani.
2. January 2001: Geneva, Switzerland, 7th International Local Drug Delivery Meeting & Cardiovascular Course on Radiation & Molecular Strategies, “Brachytherapy: lessons from animal work” and “Experimental data: Critical perspective on drug-eluting stents,” R Virmani.
3. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Microscopic and macroscopic: general considerations,” R Virmani.
4. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Plastic embedding/processing: a primer,” R Virmani.
5. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Vascular brachytherapy: Sorry, but I’m still not convinced,” R Virmani.
6. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Microscopic and macroscopic: interesting cases,” R Virmani.
7. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “How I read slides,” R Virmani.
8. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Panel discussion: Why long-term results are not favorable in animal studies,” R Virmani.
9. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Drug-coated stents: similarities and differences with vascular brachytherapy,” R Virmani.
10. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Does radiation of coronary arteries lead to longterm lumen patency?” R Virmani.
11. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “The therapeutic window between benefit and disaster,” R Virmani.
12. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Pathology: diabetic restenosis and vascular disease,” R Virmani.
13. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Drug-coated stents: similarities and differences with vascular brachytherapy,” R Virmani.
14. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Does radiation of coronary arteries lead to longterm lumen patency?” R Virmani.
15. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “The therapeutic window between benefit and disaster,” R Virmani.
16. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Pathology: diabetic restenosis and vascular disease,” R Virmani.
17. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Histomorphometry: results from human observations,” A Farb.
18. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, “Histomorphometry: relationships to human tissue,” A Farb.
19. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular

- Restenosis Forum, "Microscopic and macroscopic sessions with the pathologist: results from human observations," A Farb.
20. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, "Radiation and delayed healing after vascular brachytherapy," A Farb.
 21. February 2001: Washington, DC, Cardiovascular Radiation Therapy & Cardiovascular Restenosis Forum, "Lessons from animal studies with radioactive stents," A Farb.
 22. March 2001: Rome, Italy, JIM Symposium, "Covered and coated stents," R Virmani.
 23. March 2001: Atlanta, Ga, United States and Canadian Academy of Pathology Meeting, "Structural causes of sudden cardiac death," R Virmani.
 24. March 2001: Aspen, Colo, Interventional Cardiology Meeting, "What we have learned - brachytherapy versus sonotherapy?" R Virmani.
 25. March 2001: Natick, Mass, 2001 Boston Scientific Histosummit, "Vascular and nonvascular devices and healing responses," R Virmani.
 26. March 2001: Orlando, Fla, American College of Cardiology Meeting, "Pathobiology of radiation effects," "Role of apoptosis in congestive heart failure," R Virmani.
 27. March 2001: Burlington, Vt, The University of Vermont, "Pathology Grand Rounds," R Virmani.
 28. April 2001: Philadelphia, Pa, Inflammation and Cardiovascular Diseases Special Symposium, "Does inflammation play a role in atherosclerotic plaque rupture?" R Virmani.
 29. April 2001: Philadelphia, Pa, Cardiology Grand Rounds at Temple University, "Comparison of brachytherapy and drug-eluting stents for prevention of coronary restenosis," R Virmani.
 30. May 2001: Baltimore, Md, Grand Rounds at Johns Hopkins School of Medicine, "Pathobiology of coronary brachytherapy," R Virmani.
 31. May 2001: Baltimore, Md, Johns Hopkins School of Medicine, "The morphologic determinants of plaque instability and stability," R Virmani.
 32. May 2001: Paris, France, PCR Euro - Paris Course on Revascularization, "Pathology after radiation: short-and long-term," "Guidant Pharma-link stent programme," "Retrieval and analysis of particulate debris after SVG intervention," and "Histopathology of restenosis," R Virmani.
 33. June 2001, Wittenberg, Germany, Leucorea Institute, "Coronary artery calcification: old concepts and new vistas," Third International Expert Meeting of Vascular Calcifications, A Burke.
 34. June 2001: Mount Sinai, NY, SCOR Seminar Series, "Comparison of the coronary and carotid atherosclerosis," R Virmani.
 35. June 2001: Monte Carlo, Monaco, Global Endovascular Therapy, GET 2001, "Morphology of carotid plaque" and "Pathophysiological aspects of drug-coated stents," R Virmani.
 36. June 2001: London, England, 4th Interventional Meeting on Interventional Cardiology, "Actinomycin stent," "Brachytherapy: How does radiation alter the healing of coronary vessels?" "Stenting in man," "Basic principles of response to various modes of injury in PCI (percutaneous coronary intervention)," "Inflammation in the inflammatory response to stent within the vessel wall," and "Comparison of coronary versus carotid atherosclerotic symptomatic diseases," R Virmani.
 37. July 2001: Winnipeg, Canada, XVII World Congress International Society for Heart Research Meeting, Frontiers in Cardiovascular Health, "Pathophysiology of coronary plaque rupture: What have we learned and what else do we need to know?" R Virmani.
 38. August 2001: Auckland, New Zealand, 2001 Cardiac Society of Australia and New Zealand Annual Scientific Meeting, "Complications after brachytherapy: insights from animals," "Drug-eluting stents: the need for long-term studies," "Pathology of chronic total occlusions," and "Do we need embolic protection?" R Virmani.
 39. September 2001: Gothenburg, Sweden, Cardiovascular and Interventional Radiological Society of Europe 2001 (CIRSE), "Histologic targets and techniques," R Virmani.
 40. September 2001: Washington, DC, Internal Medicine Grand Rounds at Walter Reed Army Medical Center, "Plaque instability: insights from sudden coronary death," A Farb.
 41. September - October 2001: Buenos Aires, Argentina, XXVII Argentina Congress of Cardiology, "Present and future of coronary restenosis: an anatomy - pathological point of

- view,” and “Pathology substrate in acute coronary syndromes,” R Virmani
42. October 2001: Cambridge, Mass, Center for Innovative Minimally Invasive Therapy 2001 (CIMIT) Vulnerable Plaque Conference: Pathophysiology, Detection, and Treatment, “Pathologic features of vulnerable plaque – Definitions,” R Virmani.
 43. October 2001: Kobe, Japan, Complex Catheter Therapeutics Japan, “Pathohistological rationale in new treatment modalities,” “Drug-eluting stent,” and “In-stent restenosis,” R Virmani.
 44. October 2001: Bronx, NY, Albert Einstein College of Medicine of Yeshiva University, “Vulnerable plaque and sudden coronary death,” R Virmani.
 45. October 2001: Newark, NJ, Novartis Seminar, “Stent-induced restenosis: local versus oral therapy for reduction of restenosis,” R Virmani.
 46. October 2001: Washington, DC, Georgetown University, Department of Pathology Staff Conference, “A review of coronary artery plaque instability,” A Farb.
 47. November 2001, Philadelphia, Pa, Chest 2001, “The pathologic basis for new atherosclerosis imaging techniques,” A Burke.
 48. November 2001: Washington, DC, Georgetown University School of Medicine, Department of Pathology-Systematic Pathology, “Atherosclerosis” and “Ischemic heart disease,” R Virmani.
 49. November 2001: Anaheim, Calif, American Heart Association Scientific Sessions, “Clinical implications of cardiovascular mineralization,” A Farb.
 50. December 2001: Hyderabad, India, Cardiological Society of India, “New classification of atherosclerosis,” “Histological comparisons of brachytherapy, drug-eluting stent, and sonotherapy,” and “Who died? Restenosis—Is it true?” R Virmani.

PUBLICATIONS

Journal Articles

1. Burke AP, Farb A, Malcom G, Virmani R. Effect of menopause on plaque characteristics in coronary atherosclerosis. *Am Heart J*. 2001;141(2 suppl):S58-62.
2. Burke AP, Kolodgie FD, Farb A, Weber DK, Malcom GT, Smialek J, Virmani R. Healed plaque ruptures and sudden coronary death: evidence that subclinical rupture has a role in plaque progression. *Circulation*. 2001; 103:934-940.
3. Huang H, Virmani R, Younis H, Burke AP, Kamm RD, Lee RT. The impact of calcification on the biomechanical stability of atherosclerotic plaques. *Circulation*. 2001;103:1051-1056.
4. Sugiyama S, Okada Y, Sukhova GK, Virmani R, Heinecke JW, Libby P. Macrophage myeloperoxidase regulation by granulocyte macrophage colony-stimulating factor in human atherosclerosis and implications in acute coronary syndromes. *Am J Pathol*. 2001; 158:879-891.
5. Cejna M, Virmani R, Jones R, Bergmeister H, Losert U, Xu Z, Yang P, Schoder M, Lammer J. Biocompatibility and performance of the wall-stent and several covered stents in a sheep iliac artery model. *J Vasc Interv Radiol*. 2001;12:351-358.
6. Fitzgerald PJ, Takagi A, Moore MP, Hayase M, Kolodgie FD, Corl D, Nassi M, Virmani R, Yock PG. Intravascular sonotherapy decreases neointimal hyperplasia after stent implantation in swine. *Circulation*. 2001; 103:1828-1831.
7. Farb A, Shroff S, John M, Sweet W, Virmani R. Late arterial responses (6 and 12 months) after (32)P beta-emitting stent placement: sustained intimal suppression with incomplete healing. *Circulation*. 2001;103:1912-1919.
8. Burke AP, Virmani R. Localized vasculitis. *Semin Diagn Pathol*. 2001;18:59-66.
9. Hill AC, Maroney TP, Virmani R. Facilitated coronary anastomosis using a nitinol U-clip device: bovine model. *J Thorac Cardiovasc Surg*. 2001; 12:859-870.
10. Kim HS, Waksman R, Kollum M, Bhargava B, Kent KM, Mintz GS, Kolodgie FD, Virmani R. Edge stenosis after intracoronary radiotherapy: angiographic, intravascular findings. *Circulation*. 2001;103:2219-2220.
11. Beach L, Burke A, Radentz S, Virmani R. Spontaneous fatal rupture of a coronary arterial aneurysm into the right ventricle. *Am J Cardiol*. 2001;8:99-100.
12. Taylor AJ, Gorman PD, Kenwood B, Hudak C, Tashko G, Virmani R. A comparison of four

- stent designs on arterial injury, cellular proliferation, neointima formation, and arterial dimensions in an experimental porcine model. *Cathet Cardiovasc Interv*. 2001;5:420-425.
13. Farb A, Heller PF, Shroff S, Cheng L, Kolodgie FD, Carter AJ, Scott DS, Froehlich J, Virmani R. Pathological analysis of local delivery of paclitaxel via a polymer-coated stent. *Circulation*. 2001;104:473-479.
 14. Burke AP, Weber DK, Kolodgie FD, Farb A, Taylor AJ, Virmani R. Pathophysiology of calcium deposition in coronary arteries. *Herz*. 2001;26:239-244.
 15. Virmani R, Kolodgie FD, Farb A, Burke AP. Pathology of direct myocardial revascularization. *Curr Interv Cardiol Rep*. 2001;3:198-204.
 16. Kolodgie FD, Burke AP, Farb A, Gold HK, Yuan J, Narula J, Finn AV, Virmani R. The thin cap fibroatheroma: a type of vulnerable plaque: the major precursor lesion to acute coronary syndromes. *Curr Opin Cardiol*. 2001;16:285-292.
 17. Baynes-Genis A, Conover CA, Overgaard MT, Bailey KR, Christiansen M, Holmes DR Jr, Virmani R, Oxvig C, Schwartz RS. Pregnancy-associated plasma protein A as a marker of acute coronary syndromes. *N Engl J Med*. 2001;345:1022-1029.
 18. Virmani R, Burke AP, Farb A. Sudden cardiac death. *Cardiovasc Pathol*. 2001;10:211-218.
 19. Virmani R, Kolodgie F, Farb A, Burke A. Pathologic evaluation of carotid endarterectomy. *Pathology Case Reviews*. 2001;6:236-243.
 20. Burke A, Farb A, Virmani R. Coronary thrombosis: What's new. *Pathology Case Reviews*. 2001;6:244-252.
 21. Farb A, Burke AP, Virmani R. Evaluation of intravascular stents. *Pathology Case Reviews*. 2001;6:253-264.
 22. Burke A, Virmani R. Temporal artery biopsy of giant cell arteritis. *Pathology Case Reviews*. 2001;6:265-273.
 23. Fischel TA, Virmani R. Intracoronary brachytherapy in the porcine model-A different animal. *Circulation*. 2001;104:2388-2390.
 24. Farb A, Burke AP, Kolodgie FD, Virmani R. Update on the pathology of sudden coronary death. *Cardiac Electrophysiology Review*. 2001; 5:373-377.
 25. Beach L, Burke A, Chute D, Virmani R. Anomalous origin of 4 coronary ostia from the right sinus of valsalva in a patient with hypertrophic cardiomyopathy. *Arch Pathol Lab Med*. 2001; 125:1489-1490.
 26. Schmermund A, Schwartz RS, Adamzik M, Sangiorgi G, Pfeifer EA, Rumberger JA, Burke AP, Farb A, Virmani R. Coronary atherosclerosis in unheralded sudden coronary death under age 50: Histopathologic comparison with "healthy" subjects dying out of hospital. *Atherosclerosis*. 2001;155:499-508.

Abstracts

1. Finn AV, Clermont A, Kolodgie FD, Weber DK, Yu JC, Hollenbach S, Giese N, Virmani R, Gold H. An oral inhibitor of platelet derived growth factor limits neointimal formation after arterial balloon injury in a rat model of type 1 diabetes mellitus. *Circulation*. 2001; 104 (suppl II):II-236. Abstract 1138.
2. Khurana C, Farb A, Weber DK, Burke AP, Virmani R. The importance of arterial injury in the development of restenosis in humans with small diameter coronary stents. *Circulation*. 2001;104 (suppl II):11-388. Abstract 1850.
3. Burke AP, Kolodgie FD, Creighton W, Kutys R, Farb A, Virmani R. Homozygosity for 111RN Allele 2 confers a protective effect against fatal coronary thrombosis. *Circulation*. 2001;104 (suppl 11):11-448. Abstract 2126.
4. Robinson KA, Chronos NAF, Royal J, Suh L, Cipolla GD, Virmani R, Stack Richard S. Actinomycin-D drug-eluting stents preserve lumen size and inhibit fibrocellular neointima in pig coronary arteries. *Circulation*. 2001;104 (suppl II):II-506. Abstract 2396.
5. John MC, Farb A, Khurana C, Acampado E, Virmani R. Loss of neointimal suppression between 1 and 2 years after placement of ^{225}Ac β -emitting stents. *Circulation*. 2001;104(suppl H):II-666. Abstract 3146.
6. Kolodgie FD, Edwards S, Petrov A, Sachleben RA, Hartung D, Weber DK, Narula N, Jain D, Gold HK, Virmani R, Narula J. Noninvasive detection of matrix metalloproteinase upregulation in experimental atherosclerotic lesions and its abrogation by dietary modification. *Circulation*. 2001;104 (suppl 11):11-694. Abstract 3274.

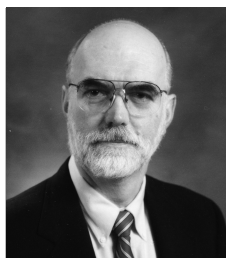
7. Burke AP, Varghese PJ, Peterson E, Malcom G, Farb A, Virmani R. Large lipid core and extensive plaque burden are features of coronary atherosclerosis in patients with non-insulin dependent diabetes mellitus. *Am Coll Cardiol*. 2001;37(suppl A):257A. Abstract 1160-172.
8. Burke AP, Tracy R, Virmani R. C-reactive protein as a risk factor for atherothrombosis: a postmortem study. *Mod Pathol*. 2001;14:238A.
9. Burke AP, Weber DK, Kolodgie FK, Peterson E, Virmani R. Atherosclerotic coronary artery expansion is not simply a function of percent stenosis: calcification and lipid core contribute to positive remodeling. *Am Coll Cardiol*. 2001;37(suppl A):3A. Abstract 1039-22.
10. Farb A, Virmani R. Late stent thrombosis in humans is due to impaired intimal healing. *Am Coll Cardiol*. 2001;37(suppl A):31A. Abstract 1123-23.
11. John MC, Farb A, Virmani R. Adverse edge effects are not prevented by beta-emitting hot-ends radioactive stents. *J Am Coll Cardiol*. 2001;37(suppl A):62A. Abstract 1221-15.
12. Shroff S, Farb A, John M, Virmani R. Neointima formation inhibited, but healing incomplete 12 months after deployment of high dose P beta-emitting stents. *Cardiovasc Radiat Med*. 2001;2:56.
13. John M, Shroff S, Farb A, Virmani R. In vivo cellular responses to beta-emitting stents. *Cardiovasc Radiat Med*. 2001;2:55-56.

Book Chapters

1. Burke AP, Virmani R. Nonatherosclerotic diseases of the aorta and miscellaneous diseases of the main pulmonary arteries and large veins. In: Silver MD, Gotlieb AI, Schoen FJ, eds. *Cardiovascular Pathology*. 3rd ed. New York, NY: Churchill Livingstone Inc; 2001:107-137.
2. Burke AP, Virmani R. Tumor-like conditions and tumors of the heart. In: Silver MD, Gotlieb AL, Schoen FJ, eds. *Cardiovascular Pathology*. 3rd ed. New York, NY: Churchill Livingstone Inc; 2001:583-605.
3. Taylor AJ, Virmani R. Coronary artery anomalies. In: Crawford MH, DiMarco JP, eds. *Cardiology*. London, England: Mosby; 2001:2.10.1-2.10.10.4
4. Virmani R, Kolodgie FD, Burke A, Farb A. Inflammation in coronary atherosclerosis-pathological aspects. In: Mehta JL, ed. *Inflammatory and Infectious Basis of Atherosclerosis*. Basel: Birkhauser Verlag; 2001:23-46.

Books

Virmani R, Burke A, Farb A, Atkinson JB. *Cardiovascular Pathology*. 2nd ed. Philadelphia, Pa: W.B. Saunders Company; 2001.



Dennis K. Heffner, MD
Chair
Date of Appointment—1 September 1984

○ ○ ○
○ ○ ○
○ ○ ○

DEPARTMENT OF ENDOCRINE & OTORHINOLARYNGIC/HEAD-NECK PATHOLOGY

MISSION

The Department of Endocrine and Otorhinolaryngic/Head-Neck Pathology provides consultation, education, and research in the pathology of the upper respiratory tract, ear, and related head and neck areas, and of the pancreas, adrenal, thyroid, and parathyroid glands.

STAFF

Medical:

Dennis K. Heffner, MD, Chair
Clara S. Heffess, MD, Chief, Division of Endocrine Pathology
Lester D. R. Thompson, MD, Chief, Division of Otorhinolaryngic/Head-Neck Pathology
Jacqueline A. Wieneke, MD

Administrative:

(A) Harold Lindmark, Administrative Assistant

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military.....	586
Army.....	(211)
Navy.....	(102)
Air Force.....	(273)
Federal.....	338
VA.....	(330)
USPHS.....	(0)
OFA.....	(8)
Civilian.....	1,631
Interdepartmental.....	241
Total.....	2,697

Our department consults on a broad spectrum of pathologic conditions, consisting of a multitude of disease entities affecting the upper respiratory tract, ear, and adjacent or related anatomic areas of the head and neck, and the pancreas, adrenal, thyroid, and parathyroid glands. In 2001, the department consulted on difficult or controversial histopathologic

diagnostic cases received from US military medical commands or facilities, Department of Veterans Affairs medical centers, US Public Health centers, and nongovernmental civilian hospitals in the continental United States and abroad.

The evaluation of the above cases required the examination of 12,657 slides in the ENT Division and 33,114 slides in the Endocrine Division (total 45,771 slides, or 187 slides per day). These evaluations required the following additional types of procedures and analyses performed:

- H&E stain: 1,160 slides
- Special stains: 50
- Immunohistochemical stains: 36,084 slides
- Electron microscopy: 20 cases
- Molecular biology study: 20 cases

Impact:

Difficult or controversial surgical pathology diagnostic problems are received in consultation from US military medical commands or other military facilities, Department of Veterans Affairs medical centers, US Public Health centers, and nongovernmental civilian hospitals within the continental United States and abroad. The vast majority of cases are active surgical pathology cases with patient treatment decisions awaiting AFIP consultation. The department's focus is to provide the most reliably accurate diagnostic evaluations and opinions that can be found anywhere in the world. The staff's primary responsibility is to maintain and continually improve its highly subspecialized diagnostic expertise, based on sharing of current caseload problems and research study of our extensive repository of cases. The clinical importance of departmental opinion varies from case to case, but in an estimated 90% of cases the opinion has the potential to influence management of the patient, and in an estimated 40% of cases the opinion clearly alters the course of patient therapy in major or significant ways.

Over the last three decades, education has improved overall knowledge of most pathologists, so that some uncommon (but not too problematic) conditions are now confidently recognized and specimens from such conditions are seldom sent to the Institute. As a corollary of this education, some more highly problematic and subtle lesions that previously might not have been recognized as problems (and unfortunately went unknowingly misdiagnosed) are now recognized and sent to us for consultation. The result is that the average case handled by the department is now even more challenging than previously and requires an even greater depth of experience on the part of the staff.

Deployment: April 2001 (2 weeks), Elmendorf Air Force Base, Ark. Served as general pathologist (Naval Reserve duty). LDR Thompson.

EDUCATION

Presentations and Seminars: The staff made 19 presentations, totaling 2,020 man-hours of educational product.

Courses: A 4-week-long Otolaryngic Basic Science Course was presented in March 2001. Thirteen military and 10 civilian surgeons attended this course. Approximately one quarter of the course consisted of pathology instruction provided by department staff members, representing 920 man-hours of instruction.

Trainees: The department had a total of 18 trainees for variable periods of time, ranging from 7 days to 6 months and representing 591 training-days. There was 1 federal trainee for 127 days, 15 nonfederal for 443 days, and 2 foreign national trainees for 21 days.

Educational Aids: Our department developed a 200-slide study set for trainees during 2001. We produce 2 monthly Web training sites for ENT and Endocrine Pathology.

RESEARCH

Publications: The staff published 13 journal articles, 6 abstracts, and 4 book chapters during the year.

The department maintained 26 research projects in 2001, as listed below:

Projects:

1. Olfactory esthesioneuroblastoma: a proposed grading system
2. Synovial sarcomas of the head and neck

3. Nodular fasciitis of the external ear area
4. Immunohistochemistry of sinonasal teratocarcinosarcomas
5. Carcinomas of the oral cavity, larynx, and nose in children
6. Spindle cell (sarcomatoid) carcinoma of the larynx
7. Primary thyroid malignant lymphomas
8. Anaplastic carcinomas of the pancreas
9. K-ras oncogene mutations in the diagnosis of adenocarcinoma of the pancreas
10. Intraductal papillary-mucinous neoplasms of the pancreas
11. Carcinomas metastatic to the temporal bone
12. Malignant pheochromocytomas (of the adrenal gland)
13. Head and neck chondrosarcomas in pediatric patients
14. Head and neck osteosarcomas in pediatric patients
15. Metastatic renal cell carcinoma to the pancreas or thyroid gland
16. Myoepithelial carcinomas of the sinonasal tract
17. Kaposi sarcoma of the salivary gland
18. Clear cell carcinomas of salivary gland
19. Myxomatous tumors of the head and neck
20. Malakoplakia of the head and neck
21. Respiratory epithelial carcinomas of the head and neck
22. Giant cell tumors of the larynx
23. Primary angiosarcomas of the larynx
24. Adrenal neoplasms (comprehensive)
25. Spindle cell lesions of the ear
26. Middle ear adenomas

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Dr. Andrew Flood, NIH – Epidemiology
2. Dr. Kurt Kodroff, VA, Wilmington, Del

Civilian:

1. Dr. Douglas Gnepp, Rhode Island Hospital
2. Dr. Peter Buetow, Medical College of Virginia
3. Dr. Yolanda Oertel, Washington Hospital Center
4. Dr. David Klimstra, Memorial-Sloan Kettering Cancer Center, NY
5. Dr. Bruce Wenig, Beth Israel Hospital, NY
6. Dr. Jeffrey Newhouse, Columbia-Presbyterian Medical Center, NY

International:

Dr. Juan Rosai, Italy

Interdepartmental:

The staff participated in 15 combined educational histopathology slide conferences with the Department of Oral and Maxillofacial Pathology.

Honors: John Hill Brinton Award, Armed Forces Institute of Pathology, Dr. Lester Thompson, May 2001.

Committees:

Editorial Boards:

1. *Ear, Nose, Throat Journal* – DK Heffner
2. *European Archives of Otorhinolaryngology* — DK Heffner
3. *Annals of Diagnostic Pathology* — DK Heffner; LDR Thompson, Section Editor

Manuscripts Reviewed: Members of the department reviewed numerous articles for the follow-

ing professional journals:

1. *Cancer*
2. *Human Pathology*
3. *Acta Cytologica*
4. *Archives of Medical Research*
5. *Pathology Research and Practice*

Faculty Appointments:

Georgetown University Medical Center, Adjunct Professor, Department of Otolaryngology - Head and Neck Surgery— DK Heffner

Public Affairs Report: Heffner DK. Key to correct diagnosis is pathologist's depth and extent of experience. *Oncology Times*, September 4-10, 2001.

PRESENTATIONS

1. March 2001: Atlanta, Ga, Endocrine Pathology Society, USCAP, "Minimally invasive follicular carcinoma," CS Heffess.
2. May 2001: Madrid, Spain, Congreso Virtual Hispanoamericano de Anatomia Patologica, "Thyroid teratomas, dyshormonogenetic goiter, sclerosing variant of papillary thyroid carcinoma," CS Heffess.
3. April 2001 and September 2001: Chicago, Ill, Osler Review Programs, 7-hour review course for Otolaryngic Pathology (for Otolaryngic Surgery Boards), LDR Thompson.
4. May 2001: Washington, DC, Faculty Speaker, Armed Forces Institute of Pathology, Review of Anatomic Pathology, "Selected topics in otolaryngic pathology," LDR Thompson.
5. March 2001: Washington, DC, Uniformed Services University of the Health Sciences, Armed Forces Institute of Pathology Basic Science Course in Otolaryngology Head and Neck Surgery (4-week course), "Selected topics in otolaryngic pathology," LDR Thompson.
6. May 2001: Washington, DC, AFIP Annual Anatomic Pathology Short Course, "Selected topics in otolaryngic and endocrine pathology," LDR Thompson.
7. February 2001: Washington, DC, Grand Rounds, Georgetown University Medical School, "Diagnostically challenging tumors in head and neck pathology," LDR Thompson
8. January and March 2001: Washington, DC, Georgetown Residency Training Program, "Selected topics in head and neck pathology," LDR Thompson.
9. April 23 – May 4, 2001: Anchorage, Alaska, "Head and neck pathology; endocrine organ pathology," LDR Thompson.
10. May 2001: Washington, DC, Staff Conference, AFIP, "Laryngeal spindle cell sarcomatoid carcinoma," LDR Thompson.
11. June 2001: Salvador, Bahia, Brazilian Society of Pathology, XXIII Brazilian Congress of Pathology, "Telepathology," LDR Thompson.
12. June 2001: Salvador, Bahia, Brazilian Society of Pathology, XXIII Brazilian Congress of Pathology, "Differential diagnostic problems in endocrine pathology," LDR Thompson.
13. July 2001: Washington, DC, Staff Conference, AFIP, "New PASS criteria for benign versus malignant pheochromocytomas," LDR Thompson.
14. July 2001: Indianapolis, Ind, Guest Professor, 86Annual Anatomy and Histopathology of the Head, Neck and Temporal Bone, Indiana University School of Medicine and Department of Otolaryngology-Head and Neck Surgery, "Selected topics in head and neck pathology," LDR Thompson.
15. October 2001: Washington, DC, Grand Rounds, George Washington University, "Benign versus malignant endocrine organ pathology," LDR Thompson.
16. December 2001: Washington, DC, Staff Conference, AFIP, "Chondrosarcomas of the larynx," LDR Thompson.
17. January 2001: Marco Island, Fla, Triological Society, Southern Sectional Meeting, Poster Presentation, "Laryngeal angiosarcoma," JA Wieneke.
18. March 2001: Atlanta, Ga, United States and Canadian Academy of Pathology National Meeting, Poster Presentations, "Giant cell tumors of the larynx, spindle cell carcinomas, malignant pheochromocytomas," JA Wieneke.

19. (Multiple) 2001: Washington, DC, Georgetown University Medical School, "Medical student lectures in endocrinology, JA Wieneke.

PUBLICATIONS

Journal Articles

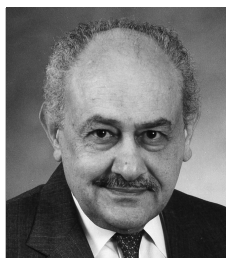
1. Kardon DE, Thompson LDR, Przygodzki RM, Heffess CS. Adenosquamous carcinoma of the pancreas: a clinicopathologic study of 25 cases *Mod Pathol*. 2001;14:443-451.
2. Paal E, Thompson LDR, Frommelt RA, Przygodzki RM, Heffess CS. A clinicopathologic and immunohistochemical study of 35 anaplastic carcinomas of the pancreas with a review of the literature *Ann Diagn Pathol*. 2001;5:129-140.
3. Thompson LD, Wieneke JA, Paal E, Allen R, Adair CF, Heffess CS. A clinicopathologic study of minimally invasive follicular carcinoma of the thyroid gland with a review of the English literature *Cancer*. 2001;91:505-524.
4. Thompson LDR, Heffner DK. Sinonasal tract eosinophilic angiocentric fibrosis: a report of three cases. *Am J Clin Pathol*. 2001;115:243-248.
5. Wieneke JA, Gannon FH, Heffner DK, Thompson LDR. Giant cell tumor of the larynx: a clinicopathologic series of eight cases and a review of the literature *Mod Pathol*. 2001;14:1209-1215.
6. Heffner DK. The end of surgical pathology *Ann Diagn Pathol*. 2001;5:368-373.
7. Gadwal SR, Gannon FH, Fanburg-Smith JC, Becoskie EA, Thompson LDR. Primary osteosarcoma of the head and neck in pediatric patients: a clinicopathologic study of 22 cases. *Cancer*. 2001;91:598-605.
8. Neuhauser TS, Derringer GA, Thompson LDR, Fanburg-Smith JC, Aguilera NS, Andriko J, Chu WS, Abbondanzo SL. Splenic inflammatory myofibroblastic tumor (inflammatory pseudotumor): a clinicopathologic and immunophenotypic study of 12 cases *Arch Pathol Lab Med*. 2001;125:379-385.
9. Gyure KA, Thompson LDR, Morrison AL. A clinicopathological study of 15 patients with neuroglial heterotopias and encephaloceles of the middle ear and mastoid region. *Laryngoscope*. 2001;110:1731-1735.
10. Thompson LDR, Fanburg-Smith JC, Wenig BM. Nodular fasciitis of the external ear region: a clinicopathologic study of 50 cases *Ann Diagn Pathol*. 2001;5:191-198.
11. Gannon FH, Glaser D, Caron R, Thompson LDR, Shore EM, Kaplan FS. Mast cell involvement in fibrodysplasia ossificans progressiva *Hum Pathol*. 2001;32:842-848.
12. Loos BM, Wieneke JA, Thompson LDR. Laryngeal angiosarcoma: a clinicopathologic study of five cases with a review of the literature *Laryngoscope*. 2001;111:1197-1202.
13. Wieneke JA, Thompson LDR, Heffess CS. Corticomedullary mixed tumor of the adrenal gland *Ann Diagn Pathol*. 2001;5:304-308.

Abstracts

1. Thompson LDR, Wieneke JA, Heffess CS. Malignant pheochromocytoma of adrenal gland: a clinicopathological and immunophenotypic study of 50 cases *Mod Pathol*. 2001;14:79A. Abstract 449.
2. Thompson LDR, Wieneke JA, Heffner DK, Miettinen M. Spindle cell (sarcomatoid) carcinoma of the larynx: an immunohistochemical analysis of 123 cases *Mod Pathol*. 2001;14:154A. Abstract 901.
3. Thompson LDR, Wieneke JA, Heffner DK. Spindle cell (sarcomatoid) carcinoma of the larynx: a clinicopathological study of 187 cases *Mod Pathol*. 2001;14:154A. Abstract 902.
4. Wieneke JA, Gannon FH, Heffner DK, Thompson LDR. Giant cell tumor of larynx: a series of eight cases. *Mod Pathol*. 2001;14:154A. Abstract 903.
5. Gyure KA, Morrison AL, Thompson LDR, Prays RA. Cytokeratin subset markers in pituitary adenomas. *Mod Pathol*. 2001;14:208A. Abstract 1233.
6. Fisher SI, Abbondanzo SL, Thompson LDR, Aguilera NS, Chu WS, Gulley ML, Nelson A. HIV-associated Hodgkin's disease: a histologic and immunophenotypic evaluation of 47 cases including antigenic expression of fascin, bcl-xL, bcl-2, bcl-6 and CD138/syndecan-1. *Mod Pathol*. 2001;14:184A. Abstract 1083.

Book Chapters

1. Wenig BM, Heffess CS. Inflammatory and infectious diseases of the pancreas. In: Odze R, Goldblum J, Crawford J, eds. *Surgical Pathology of the Gastrointestinal Tract, Liver, Biliary Tract and Pancreas*. Philadelphia, Pa: Harcourt Health Sciences; 2001.
2. Heffner DK. Diseases of the trachea. In: Barnes L, ed. *Surgical Pathology of the Head and Neck, Vol 1. 2nd ed*. New York, NY: Marcel Dekker; 2001:601-631.
3. Thompson LDR. Laryngeal Pathology. In: Fu YS, Wenig BM, Abemeyor C, eds. *Pathology of the Head and Neck with Clinicopathologic Correlations*. New York, NY: Churchill Livingstone; 2001:369-455.
4. Thompson LDR. Surgical pathology of the larynx. In: Weidner, Cote, Suster, Weiss, eds. *Modern Surgical Pathology*. Philadelphia, Pa: WB Saunders Co; 2001.



Kamal G. Ishak, MD, PhD, SES
Chair
Date of Appointment — 10 March 1965



DEPARTMENT OF HEPATIC AND GASTROINTESTINAL PATHOLOGY

MISSION

The Department of Hepatic and Gastrointestinal Pathology provides expertise in consultation, supports the educational objectives of the Armed Forces Institute of Pathology, both intramurally and extramurally, and conducts research in diseases of the liver and gastrointestinal tract.

ORGANIZATION

The department is organized into 2 divisions and the Office of the Chair.

Division of Hepatic Pathology — Zachary D. Goodman, MD, PhD, Chief

Division of Gastrointestinal Pathology — Leslie H. Sobin, MD, SES, Chief

STAFF

Medical:

Kamal G. Ishak, MD, PhD

Administrative:

Fanny X. Revelo, Administrative Officer

DIAGNOSTIC CONSULTATION

The 2 divisions consulted on 5,709 cases and 602 intramural cases, for a combined total of 6,311. (See division reports for further details.)

DIVISION OF HEPATIC PATHOLOGY

National Impact:

Over the past several decades, the division has collaborated in numerous studies with civilian universities and other federal agencies, including the Liver Disease Section of the NIH, the Food and Drug Administration, the Washington VA Medical Center, and several military medical centers. These studies delineated many major hepatotoxic drug reactions to halothane, hyperalimentation, phenothiazines, nitrofurantoin, phenytoin, valproic acid, sulindac, diclofenac, isoniazid, and ketoconazole, for example. The Histology Activity Index, modified by Dr. Ishak and collaborators, is widely used for evaluating histologic responses in research on chronic hepatitis. The division produced landmark studies of chronic hepatitis and primary biliary cirrhosis, and, over several decades, has published authoritative clinicopathologic studies of large series of liver tumors in children and adults. These classic studies of tumors included infantile hemangioendothelioma, mesenchymal hamartoma, focal nodular hyperplasia, nodular regenerative hyperplasia, angiomyolipoma, embryonal sarcoma, hepatoblastoma, hepatocellular carcinoma, and epithelioid hemangioendothelioma. The experience gained from these studies culminated in the writing and recent publication of the third edition of the AFIP Fascicle *Tumors of the Liver and Intrahepatic Bile Ducts* (Ishak, Goodman, Stocker).

Over the years, the division has educated many clinicians and pathologists through its weekly Thursday Clinicopathologic Conference, its annual Hepatic Pathology Course (now in its 21st year), and through annual postgraduate courses of the American Association for the Study of Liver Diseases (AASLD). One highly acclaimed product of the course was a full-color monograph (syllabus) published by AASLD, ARP, and AFIP.

International Impact:

Members of the division are internationally recognized authorities in the pathology of liver diseases, and have been called upon by the International Academy of Pathology to present in the United Kingdom, France, Italy, Japan, Austria, Hungary, the Netherlands, Germany, Australia, and Egypt. The department chair has coauthored several sections of the IARC monograph on classification of tumors of the gastrointestinal tract and liver, and 3 chapters of the 4th edition of the authoritative textbook *Pathology of the Liver* (Churchill Livingstone), and is also one of the editors of that book. The division has produced the AFIP fascicle (Third Series) *Tumors of the Liver and Intrahepatic Bile Ducts*, and is currently completing a nontumor fascicle on diseases of the liver.

DIVISION OF GASTROINTESTINAL PATHOLOGY

National Impact: Collaborative studies with other federal agencies have increased over the past several years:

1. National Cancer Institute: Cancer Epidemiology and Tumor Classification
2. Centers for Disease Control and Prevention: Assessing Morphologic Changes of Vaccine Reactions
3. Food and Drug Administration: Assessing Morphologic Changes of Drug Reactions
4. Naval Medical Research Institute: Pathogenesis of *Campylobacter jejuni* Infections in Humans
5. Mayo Clinic: Atlas Correlating Endoscopic and Histologic Features of Gastrointestinal Diseases
6. Albany VA Medical Center: Diagnostic Accuracy of Gastrointestinal Lesions by Telepathology

International Impact: Through the WHO Collaborating Center for International Histological Classification of Tumors, a number of important projects are underway:

1. Consultative work with the WHO to revise the International Classification of Diseases for Oncology, the standard coding system for tumors, and the basis for the SNOMED tumor morphology code.
2. Consultative work with the International Agency for Research on Cancer to initiate a new tumor classification series relating histological types to genetic and molecular characteristics.
3. Collaboration with the International Union Against Cancer on tumor classification (TNM system) and staging, and the interaction of staging with nonanatomic prognostic factors.

EDUCATION

Presentations and Seminars: Staff of the 2 divisions and the chair gave a total of 84 lectures at different events or meetings during 2001. A full list of dates and titles is included in each division report.

RESEARCH

Publications: Staff of the 2 divisions and the Office of the Chair published 33 journal articles, 5 books, 5 book chapters, and 7 abstracts. (See division reports for full details.)

Research Projects:

1. Expression of inhibin by granular cell tumors of the biliary tract (with LA Murakata).
2. Expression of melanoma markers in angiomyolipomas of the liver and kidneys (with HR Makhoul and others).
3. Expression of c-Kit by angiomyolipoma of the liver and kidney (with HR Makhoul and HE Remotti).
4. Role of hepatitis C virus in intrahepatic cholangiocarcinoma (with LA Murakata).
5. Morphologic and immunohistochemical study of sclerosing hemangioma of the liver (with HR Makhoul).

6. Histopathology and x-ray microanalysis of the cystic duct lymph node (with LA Murakata).

OTHER ACCOMPLISHMENTS

KG Ishak

Committee Memberships:

1. Member, Advisory Council to the Principal Deputy Director
2. Member, Tissue Utilization Committee
3. Medical Records Scanning Initiative Committee

Faculty Appointments:

1. USUHS, Clinical Professor of Pathology
2. Mount Sinai School of Medicine, Mt. Sinai University, New York, NY, Professorial Lecturer

Other Appointments:

Registrar of the Registry of Hepatic and Gastrointestinal Pathology, American Registry of Pathology

Awards: Dr. Ishak was awarded the Presidential Rank Award, Meritorious Executive, Senior Executive Service of the US Civil Service.

PRESENTATIONS

Dr. Ishak presented the following lectures in 2001:

1. May 2001: Birmingham, UK, "3rd Annual Meeting of the International Liver Group (Gnomes), presentation of three cases and a lecture on "Sclerosing and Sclerosed Heman-giomas of the Liver."
2. May 2001: Washington, DC, Georgetown University Medical School, Gastroenterology Division, "Chronic Cholestasis."
3. June 2001: Milan, Italy, Diagnostic Surgical Pathology Course, National Cancer Institute, "Benign Liver Tumors" and "Malignant Liver Tumors."
4. September 2001: Berlin, Germany, 18th European Congress of Pathology, "Drug-induced Hepatotoxicity: An Update," presented at the IAP/ESP Joint Symposium, "Diseases of the Liver and Gastrointestinal Tract."
5. October 2001: Bethesda, Md, AFIP 21st Annual Hepatic Pathology Course, Hepatopathology 2001, "Metabolic Liver Diseases" and "Benign and Malignant Tumors of the Liver."

PUBLICATIONS

The following publications were authored or coauthored by the department chair:

Journal Articles

1. Seeff LB, Hollinger FB, Alter HJ, Wright EC, Cain CMB, Buskell ZJ, Ishak KG, et al. Long-term mortality and morbidity of transfusion-associated non-A, non-B and type C hepatitis: a National Heart, Lung, and Blood Institute collaborative study. *Hepatology*. 2001;33:455-463.
2. Murakata LA, Ishak KG. Expression of inhibin-a by granular cell tumors of the gallbladder and extrahepatic bile ducts. *Am J Surg Pathol*. 2001;25:1200-1203.
3. Marrogi AJ, Khan MA, van Gijssel HE, ...Ishak KG, Harris CC. Oxidative stress and p53 mutations in the carcinogenesis of iron overload-associated hepatocellular carcinoma. *J Natl Cancer Inst*, 2001;93:1652-1655.
4. Kaplan KJ, Goodman ZD, Ishak KG. Eosinophilic granuloma of the liver: a characteristic lesion with relationship to visceral larva migrans. *Am J Surg Pathol*. 2001; 25:1316-1321.

Book Chapters

1. Ishak KG. Liver. In: Henson DE, Albores-Saavedra J, ed. *Pathology of Incipient Neoplasia*. 3rd ed. Oxford, England: Oxford University Press; 2001:236-262.
2. Ishak KG. Drug-induced hepatotoxicity: an update. In: Hauptmann S, Dietel M, Sobrinho-Simões M, eds. *Surgical Pathology Update 2001*. Berlin, Germany: ABW Wissenschaftsverlag; 2001:390-392.

3. Ishak KG, Sharp HL. Developmental abnormalities and liver disease in childhood. In MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, *Pathology of the Liver*. 4th ed. London, England: Churchill Livingstone; 2001:107-154.
4. Ishak KG, Sharp HL, Schwarzenberg SJ. Metabolic errors and liver disease. In: MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, *Pathology of the Liver*. 4th ed. London, England: Churchill, Livingstone; 2001:155-255.
5. Zimmerman HJ, Ishak KG. Hepatic injury due to drugs and toxins. In MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, *Pathology of the Liver*. 4th ed. London, England: Churchill Livingstone; 2001:621-709.

Books

1. Ishak KG, Goodman ZG, Stocker JT *Tumors of the Liver and Intrahepatic Bile Ducts*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 31, Atlas of Tumor Pathology.
2. MacSween RNM, Burt AD, Portman BC, Ishak KG, Scheuer PJ, Anthony PP, *Pathology of the Liver*. 4th ed. London, England: Churchill Livingstone; 2001.



Zachary D. Goodman, MD, PhD
 Chief
 Date of Appointment—1 January 1991



DIVISION OF HEPATIC PATHOLOGY

MISSION

The division provides consultation, research, and education in pathology of the liver, biliary tract, and gallbladder.

STAFF

Medical:

Zachary D. Goodman, MD, PhD, Chief
 Lionel Rabin, MD, Staff Pathologist
 Linda A. Murakata, CDR, MC, USNR, Staff Pathologist
 (A) Jose Gomez, MD, Callender-Binford Fellow
 (D) Hala Makhoulf, MD, PhD, Research Associate, Registry of Hepatic and Gastrointestinal Pathology

Administrative:

Fanny X. Revelo, Administrative Officer

DIAGNOSTIC CONSULTATIONS

<i>Cases</i>	<i>Completed</i>
Military.....	361
Army.....	189
Navy.....	61
Air Force.....	111
Federal.....	456
V A.....	440
USPHS.....	7
OFA.....	9
Civilian.....	1,251
Interdepartmental.....	193
Total.....	2,261

Consultation, education, and research required the following types of procedures and analyses:

	Total	Consultation	Education	Research
Cases.....	1,499.....	1,230.....	153.....	116
Blocks.....	1,423.....	1,219.....	177.....	27
H&E stains.....	2,504.....	1,306.....	697.....	501
Special stains.....	5,868.....	4,029.....	376.....	1,463
Unstained sections.....	8,941.....	7,046.....	1,680.....	215
Immunostains.....	2,575.....	2,449.....	60.....	66
Wet Tissue.....	44.....	5.....	39.....	0

The division made no change in the contributor diagnosis in 897 cases, a minor change in diagnosis in 721 cases, and a major change in diagnosis in 179 cases. We received 210 cases with no contributor diagnosis.

The number of consultations increased by 4.9% over 2000, continuing the trend of increasing consultations over the past 6 years. In general, most cases pose diagnostic problems for the contributing pathologist, particularly those that deal with medical diseases of the liver, such as chronic cholestatic disorders and steatohepatitis. Neoplasms represent only about 20% of the material. Many cases are sent at the request of clinicians or patients for second opinions, and, despite the advent of consultation charges, the number of civilian cases has increased. Cases are also occasionally submitted for their research and educational interest.

EDUCATION

Presentations and Seminars: Members of the division presented 26 lectures and seminars at 13 different events, representing approximately 3,400 man-hours of training. A complete list of dates and titles appears at the end of this report.

Departmental Conferences: Division staff conducted daily microscopic pathology conferences for the staff and rotating fellows and residents. The Thursday Clinicopathologic Conference, now held for 36 consecutive years, continues to attract hepatologists, gastroenterologists, and pathologists from local federal and civilian institutions. The sessions are attended by an average of 10 clinicians and pathologists.

Courses: Members of the division participated in 2 non-AFIP courses, 1 nondepartmental AFIP course, and the 22nd Annual Course in Hepatopathology, attended by 120 participants for 360 training days.

Trainees: The division provided training to the following individuals, who attended departmental conferences and reviewed teaching material:

1. Jose Gomez, MD, Callender-Binford Fellow — 250 training days.
2. 27 pathologists and fellows in gastroenterology (5 federal and military, 16 civilian, 6 foreign national), 747 total training days.

Educational Aids:

1. Quarterly AFIP/VA/Military Histopathology Quality Assessment Program, 1 case prepared (with discussion) and evaluated – (LA Murakata).
2. World Wide Web site - LA Murakata, coordinator.

RESEARCH

Publications: Division staff authored or coauthored 1 book, 15 journal articles, and 5 abstracts in 2001. Complete titles are listed at the end of this report.

Projects:

Studies Completed:

1. Comparison of fresh and paraffin-embedded tissue for measurement of the hepatic iron concentration in subjects with hepatic steatosis
2. A double-blind, placebo-controlled, randomized dose ranging study of recombinant human interleukin-10 (Tenovil) for treatment of hepatic fibrosis in patients with chronic hepatitis C who failed to respond to previous combination therapy (interferon alfa-2b plus ribavirin)
3. Clonal proliferation of lymphocytes in liver diseases of unknown cause

Studies in Progress:

1. Lymphomas of the gallbladder
2. Morphometric analysis of distribution of fibrosis in the liver
3. The HALT-C Trial: A randomized controlled trial to evaluate the safety and efficacy of long-term peginterferon alfa-2a for treatment of chronic hepatitis C in patients who failed to respond to previous interferon therapy
4. A phase II, double-blind, randomized, placebo-controlled multicenter study of the safety and antifibrotic efficacy of interferon-gamma 1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C
5. Histopathologic study of inflammatory and neoplastic skin lesions in Gulf War veterans
6. Histopathologic study of inflammatory and neoplastic colon lesions in Gulf War veterans

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. National Institutes of Health, NIDDK Liver Unit and NCI Laboratory of Pathology – The HALT-C Trial.
2. AFIP Department of Hematopathology – Lymphomas of the gallbladder.
3. AFIP Department of Environmental and Toxicologic Pathology – Histopathologic study of inflammatory and neoplastic skin lesions in Gulf War Veterans.
4. AFIP Department of Environmental and Toxicologic Pathology – Histopathologic study of inflammatory and neoplastic colon lesions in Gulf War veterans.
5. AFIP Department of Radiologic Pathology – Caroli disease: radiologic spectrum with pathologic correlation.
6. AFIP Department of Radiologic Pathology – Benign tumors and tumorlike lesions of the gallbladder and bile ducts: radiologic-pathologic correlation.
7. AFIP Department of Radiologic Pathology – Choledochal cysts: clinical, radiologic, and pathologic review and classification of 130 cases.
8. AFIP Department of Cellular Pathology and Genetics – Absence of hepatitis C viral RNA sequences in 20 intrahepatic cholangiocarcinomas.

Civilian (and Civilian/Military):

1. University of Texas Southwestern Department of Pathology – Papillary adenocarcinoma of the extrahepatic bile ducts.
2. University of Texas Southwestern Department of Pathology – Benign and malignant tumors of the gallbladder and extrahepatic biliary tract (including tumorlike lesions).
3. Presbyterian Medical Center, Philadelphia, Pa, Department of Pathology – Assessment of Glut-1 expression in cholangiocarcinoma, benign biliary lesions, and hepatocellular carcinoma.
4. Presbyterian Medical Center, Philadelphia, Pa, Department of Pathology – The DAS-1 immunostain is useful for discriminating metastatic colon adenocarcinoma from cholangiocarcinoma and hepatocellular carcinoma.
5. Schering-Plough Research Institute and AFIP Department of Cellular Pathology and Genetics – A double-blind, placebo-controlled, randomized dose ranging study of recombinant human interleukin-10 (Tenovil) for treatment of hepatic fibrosis in patients with chronic hepatitis C who failed to respond to previous combination therapy (interferon alfa-2b plus ribavirin).
6. Intermune, Inc, and AFIP Department of Cellular Pathology and Genetics – A phase II, double-blind, randomized, placebo-controlled multicenter study of the safety and antifibrotic efficacy of interferon-gamma 1b in patients with severe liver fibrosis or compensated cirrhosis due to hepatitis C.
7. University of California Irvine Division of Gastroenterology, University of Southern California Department of Pathology, and AFIP Department of Cellular Pathology and Genetics – Morphometric analysis of distribution of fibrosis in the liver.
8. New England Research Institutes, University of Washington Laboratory of Virology, University of Massachusetts, Massachusetts General Hospital, Saint Louis University, University of Colorado, University of California at Irvine, University of Texas Southwestern, University of Southern California, University of Michigan, Medical College of Virginia – Divisions of Gastroenterology/Hepatology and Departments of Pathology – The HALT-C Trial.

Committees:

1. Credentials Committee — L Rabin
2. Biosafety Committee — LA Murakata
3. Controlled Substance Inventory Board — LA Murakata

Editorial Boards:

1. *Liver* — ZD Goodman
2. *Annals of Diagnostic Pathology* — ZD Goodman
3. Center for Scientific Publications, AFIP — LA Murakata, Associate Editor

Manuscripts Reviewed: Division staff reviewed 14 manuscripts in 2001, for the following journals:

1. *New England Journal of Medicine*
2. *Human Pathology*
3. *American Journal of Gastroenterology*
4. *Hepatology*
5. *Journal of Hepatology*
6. *Liver*

Faculty Appointments:

1. USUHS, Clinical Professor — ZD Goodman
2. Georgetown University, Adjunct Associate Professor — ZD Goodman
3. Temple University, Philadelphia, Pa, Adjunct Professor — L Rabin

PRESENTATIONS

1. January 2001: Miami Beach, Fla, 26th Annual Review and Recent Practical Advances in Pathology, sponsored by Department of Pathology, University of Miami School of Medicine, "Chronic Hepatitis – Current Concepts, Grading and Staging," ZD Goodman.
2. January 2001: Miami Beach, Fla, 26th Annual Review and Recent Practical Advances in Pathology, sponsored by Department of Pathology, University of Miami School of Medicine, "Steatohepatitis – Alcoholic and Nonalcoholic," ZD Goodman.
3. January 2001: Miami Beach, Fla, 26th Annual Review and Recent Practical Advances in Pathology, sponsored by Department of Pathology, University of Miami School of Medicine, "Cholestasis," ZD Goodman.
4. January 2001: Miami Beach, Fla, 26th Annual Review and Recent Practical Advances in Pathology, sponsored by Department of Pathology, University of Miami School of Medicine, "Iron Overload and Hemochromatosis," ZD Goodman.
5. March 2001: Washington, DC, Walter Reed Army Medical Center, Women's History Month, "Women in the Workplace—Have We Arrived?" LA Murakata.
6. March 2001: Washington, DC, Georgetown University, Department of Pathology, "Liver Transplant Pathology," ZD Goodman.
7. March 2001: Washington, DC, George Washington University, Department of Pathology "Liver Transplant Pathology," ZD Goodman.
8. March 2001: Washington, DC, Sophomore Pathology Course, Georgetown University School of Medicine, "Introduction to Liver Disease (I)," ZD Goodman.
9. March 2001: Washington, DC, Sophomore Pathology Course, Georgetown University School of Medicine, "Introduction to Liver Disease (II)," ZD Goodman.
10. March 2001: Washington, DC, Sophomore Pathology Course, Georgetown University School of Medicine, "Introduction to Liver Disease (III)," ZD Goodman.
11. March 2001: Washington, DC, Sophomore Pathology Course, Georgetown University School of Medicine, "Introduction to Liver Disease (IV)," ZD Goodman.
12. April 2001: Bethesda, Md, Anti-Infective Drugs Advisory Committee, Food and Drug Administration, Center for Drug Evaluation and Research, "Drug-Induced Liver Disease," ZD Goodman.
13. May 2001: Silver Spring, Md, AFIP course, Anatomic Pathology Review and Update, "Inflammatory Diseases of the Liver," ZD Goodman.
14. May 2001: Silver Spring, Md, AFIP course, Anatomic Pathology Review and Update, "Liver Tumors: Benign and Malignant," L Rabin.
15. May 2001: Chicago, Ill, Chicago Pathology Society Annual Slide Seminar, "Diseases of the Liver," ZD Goodman.
16. June 2001: Washington, DC, AFIP Weekly Staff Conference, "Granular Cell Tumors of the Extrahepatic Bile Ducts," LA Murakata.
17. October 2001: McLean, Va, Washington Hospital Center, Gastroenterology Board Review Course, "Liver Histopathology," ZD Goodman.
18. October 2001: Bethesda, Md, Hepatopathology 2001, CME course sponsored by AFIP;

course codirector; lectures on "Introduction to Liver Pathology," "Biopsy Diagnosis of Hepatitis," "Biopsy Diagnosis of Cholestatic Liver Disease," "Drug-Induced Liver Disease," ZD Goodman.

19. October 2001: Bethesda, Md, AFIP 21 Annual Hepatic Pathology Course, Hepatopathology 2001, "Introduction to Liver Pathology," ZD Goodman.
20. October 2001: Bethesda, Md, AFIP 21 Annual Hepatic Pathology Course, Hepatopathology 2001, "Biopsy Diagnosis of Hepatitis," ZD Goodman.
21. October 2001: Bethesda, Md, AFIP 21 Annual Hepatic Pathology Course, Hepatopathology 2001, "Biopsy Diagnosis of Cholestatic Liver Disease," ZD Goodman.
22. October 2001: Bethesda, Md, AFIP 21 Annual Hepatic Pathology Course, Hepatopathology 2001, "Drug-Induced Liver Disease," ZD Goodman.
23. October 2001: Bethesda, Md, AFIP 21 Annual Hepatic Pathology Course, Hepatopathology 2001, "Case Presentations," L Rabin.
24. October 2001: Bethesda, Md, AFIP 21 Annual Hepatic Pathology Course, Hepatopathology 2001, "Case Presentations," LA Murakata.
25. November 2001: Baltimore, Md, "Current Topics in Gastrointestinal Pathology," sponsored by The Johns Hopkins University Department of Pathology, "Chronic Hepatitis," ZD Goodman.
26. December 2001: ASCP Fall 2001 Teleconference Series, "Hepatocellular Carcinoma: Histologic Diagnosis and Differential Diagnosis," ZD Goodman.

PUBLICATIONS

Book

Ishak KG, Goodman ZD, Stocker JT *Tumors of the Liver and Intrahepatic Bile Ducts*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 31, Atlas of Tumor Pathology.

Journal Articles

1. Seeff LB, Hollinger FB, Alter HJ, Wright EC, Cain CM, Buskell ZJ, Ishak KG, Iber FLA, Toto D, Samanta A, Koretz RL, Perrillo RP, Goodman ZD, Knodell RG, Gitnick G, Morgan TR, Schiff ER, Lasky S, Stevens C, Vlahcevic RZ, Weinshel E, Tanwandee T, Lin HJ, Barbosa L. Long-term mortality and morbidity of transfusion-associated non-A, non-B, and type C hepatitis: a National Heart, Lung, and Blood Institute collaborative study. *Hepatology*. 2001;33:455-463.
2. Ormseth EJ, Holtzmuller KC, Goodman ZD, Colonna JO, Batty DS, Sjogren MH: Hepatic decompensation associated with lamivudine: a case report and review of lamivudine-induced hepatotoxicity. *Am J Gastroenterol*. 2001;96:1619-1622.
3. Poynard T, Ratziu V, Charlotte F, Goodman Z, McHutchison J, Albrecht J. Rates and risk factors of liver fibrosis in patients with chronic hepatitis C. *Hepatology*. 2001;34:730-739.
4. Ong JP, Younossi ZM, Gramlich T, Goodman Z, Mayes J, Sarbah S, Yen-Lieberman B. Interferon alpha 2B and ribavirin in severe recurrent cholestatic hepatitis. *Transplantation*. 2001;71:1486-1488.
5. Lindsay KL, Trepo C, Heintges T, Schiffman ML, Gordon SC, Hoefs JC, Schiff ER, Goodman ZD, Laughlin M, Yao R, Albrecht JK. A randomized, double-blind trial comparing pegylated interferon alfa-2b to interferon alfa-2b as initial treatment for chronic hepatitis C. *Hepatology*. 2001;34:395-403.
6. Manns MP, McHutchison JG, Gordon SC, Rustgi VK, Schiffman M, Reindollar R, Goodman ZD, Koury K, Ling MH, Albrecht JK. Peginterferon alfa-2b plus ribavirin compared with interferon alfa-2b plus ribavirin for initial treatment of chronic hepatitis C: a randomized trial. *Lancet*. 2001;358:958-965.
7. Kweon YO, Goodman ZD, Dienstag JL, Schiff ER, Brown NA, Burkhardt E, Schoonhoven R, Brenner DA, Fried MW. Decreasing fibrogenesis: an immunohistochemical study of paired liver biopsies following lamivudine therapy for chronic hepatitis B. *Hepatology*. 2001;35:749-755.
8. Przygodzki RM, Goodman ZD, Rabin L, Centeno JA, Liu Y, Hubbs AE, O'Leary TJ. Hemochromatosis (HFE) gene sequence analysis of formalin-fixed, paraffin-embedded liver biopsy specimens. *Mol Diagn*. 2001;6:227-232.
9. Kaplan KJ, Goodman ZD, Ishak KG: Eosinophilic granuloma of the liver: a characteristic

- lesion with relationship to visceral larva migrans. *Am J Surg Pathol.* 2001; 25:1316-1321.
10. Murakata LA, Ishak KG. Expression of inhibin-a by granular cell tumors of the gallbladder and extrahepatic bile ducts. *Am J Surg Pathol.* 2001;25:1200-1203.
 11. Levy AD, Murakata LA, Rohrmann CA Jr. Gallbladder carcinoma: radiologic-pathologic correlation. *Radiographics.* 2001;21:295-314.
 12. Maitra A, Murakata LA, Albores-Saavedra J. Immunoreactivity for hepatocyte paraffin 1 antibody in hepatoid adenocarcinomas of the gastrointestinal tract. *Am J Clin Pathol.* 2001;115:689-684.
 13. Albores-Saavedra J, Hoang MP, Murakata LA, Sinkre P, Yaziji H. Atypical bile duct adenoma, clear cell type: a previously undescribed tumor of the liver. *Am J Surg Pathol.* 2001;25:956-960.
 14. Hoang MP, Murakata LA, Albores-Saavedra J. Metaplastic lesions of the extrahepatic bile ducts: a morphologic and immunohistochemical study. *Mod Pathol.* 2001;14:1119-1125.
 15. Sinkre PA, Murakata LA, Rabin L, Hoang MP, Albores-Saavedra J. Clear cell carcinoid tumor of the gallbladder: another distinctive manifestation of von Hippel-Lindau disease. *Am J Surg Pathol.* 2001;25:1334-1339.

Abstracts

1. Yeh MM, Wright E, Seeff L, Strader D, Buskell-Bales Z, Goodman Z. The changing histologic features of chronic hepatitis C in IV drug abusers – 1970's vs 1990's. *Mod Pathol.* 2001;14:205A.
2. Dural AT, Genta RM, Goodman ZD, Yoffe B. Idiopathic adulthood ductopenia associated with hepatitis C virus: a case report. *Am J Gastroenterol.* 2001;96:S119-S120.
3. Wong PK, Lawitz E, Torgerso S, Goodman Z, Centeno J. The effect of hepatic steatosis on hepatic iron concentration in fresh and paraffin-embedded tissue. *Am J Gastroenterol.* 2001;96:S139.
4. Levy AD, Rohrmann CA, Lonergan GJ, Murakata LA. Choledochal cysts: clinical, radiologic, and pathologic review and classification of 130 cases. *Radiology.* 2001;221(P):445.
5. Levy AD, Murakata LA, Rohrmann CA. Gallbladder carcinoma: radiologic-pathologic correlation. 30th Annual Meeting of the Society of Gastrointestinal Radiologists; March 25-30, 2001; Scottsdale, Ariz.



Leslie H. Sobin, MD, SES
 Chief
 Date of Appointment — 1 January 1991



DIVISION OF GASTROINTESTINAL PATHOLOGY

MISSION

The division supports the mission of the AFIP by providing consultation, education, and research on the pathology of the gastrointestinal tract.

STAFF

Medical:

Leslie H. Sobin, MD, FRCPath, Chief; Director, Center for Scientific Publications
 Nancy S. Dow, LTC, MC, USA, Staff Pathologist
 Amir I. Kende, Maj, USAF, MC, Staff Pathologist
 David M. Burch, LCDR, MC, USN, Staff Pathologist
 Christine M. Hobbs, MD, Staff Pathologist
 Helen E. Remotti, MAJ, MC, USA, Staff Pathologist
 (A) Jose Daniel Gomez, MD, Callender-Binford Fellow
 (A) Birgitte H. Federspiel, MD, Visiting Scientist

Administrative:

Mayra E. Aguilera, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military.....	692
Army.....	328
Navy.....	144
Air Force.....	220
Federal.....	1,071
VA.....	1,053
USPHS.....	4
OFA.....	14
Civilian.....	1,482
Interdepartmental.....	409
Total.....	3,654

Consultation, Education, and Research required the following types of procedures and analyses:

	Total	Consultation	Education	Research
Cases.....	1,434	1,273	152	9
Blocks.....	1,879	1,740	134	5
H&E stains.....	4,166	2,849	1,279	38
Special stains.....	1,508	1,397	108	3
Unstained sections.....	8,382	7,320	1,042	20
Immunostains.....	9,327	9,050	233	44
Wet Tissue.....	0	0	0	0

The cases received represent a mixture of problems, primarily neoplastic and precancerous lesions, as well as inflammatory diseases. Among the relatively uncommon lesions that are unusually prominent in the division's accessions are carcinoids, mesenchymal tumors, lymphomas, and surveillance biopsies for dysplasia in cases of ulcerative colitis and Barrett esophagus. The last of these is particularly frequent. Some of the staff members of this division also participate in the review of consultation cases in the Division of Hepatic Pathology.

EDUCATION

Presentations and Seminars: Division staff made 40 presentations at medical schools, hospitals, meetings, and seminars. Complete dates and titles are listed at the end of this report. A daily divisional conference is held to review all gastrointestinal cases accessioned within the previous 24 hours. The conference serves as the major educational forum, and is part of the quality assurance program. A gastrointestinal radiology-pathology conference is held regularly. Some of the staff members also attend the daily Hepatic Pathology review signout conferences and the weekly Hepatic Thursday Clinicopathologic Conference.

Courses: Staff members participated in 3 AFIP courses and organized the 12th Annual Course on Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract, representing approximately 2,000 man-hours of training.

The Virtual Gastrointestinal Endoscopic Biopsy Course provides CME credit for 40 cases on the AFIP Web site, <http://www.afip.org/Departments/edu/webed/vgi/hgss01/frame3.html>. In 2001, 19 people were given CME credit for this course.

Trainees: The division provided training to 27 civilian and military gastroenterology fellows and pathologists.

Educational Aids:

1. Several thousand microscope slides, arranged by organ, demonstrating a wide variety of gastrointestinal lesions.
2. The endoscopic biopsy collection, consisting of over 500 cases. There are multiple copies for use in the annual course.
3. Ten sets of 35mm transparencies, each accompanied by a syllabus, available for individual study. They are also sold by the ARP Bookstore, along with several WHO gastrointestinal pathology study sets.
4. A syllabus to accompany the division's annual course.
5. The AFIP Atlas of Gastrointestinal Endoscopy and Endoscopic Biopsies (Emory T, et al). This publication was produced by the staff of the division in collaboration with the Mayo Clinic.
6. GI images and questions for Board Review: 48 cases on PowerPoint CD; will be available on computer terminals at the AFIP's Annual Anatomic Pathology Review Course in 2002.

Scientific Exhibits/Posters:

1. Levy AD, Abbott RM, Rohrmann CA, Frazier AA, Kende A. Gastrointestinal hemangiomas: imaging findings with pathologic correlation. 30th Annual Meeting of the Society of Gastrointestinal Radiology; March 25-30, 2001.
2. Levy AD, Rohrmann CA, Schufflaer MD, Krishnamurthy S, Kende AI. Gastrointestinal motility disorders: radiologic-pathologic correlation. Radiological Society of North America 87th Scientific Assembly and Annual Meeting; November 24-30, 2001.
3. Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI. Appendiceal neoplasms: radiologic-pathologic correlation. Radiological Society of North America 87th Scientific Assembly and Annual Meeting; November 24-30, 2001.

RESEARCH

Publications: Division staff published 15 journal articles, 2 letters to the editor, 2 abstracts, and 3 books. Complete bibliographic information appears at the end of this report.

Projects: There were 16 intramural and extramural research protocols open in 2001, involving several areas of gastrointestinal pathology, including the following:

1. Gastrointestinal stromal tumors (GISTs), clinicopathologic studies
2. Anal duct carcinomas, clinicopathologic study

3. Expression of cytokeratin-7 and -20 of GI epithelial malignancies
4. Diagnostic accuracy of GI lesions by telepathology
5. Inflammatory pseudotumors of the GI tract
6. Inflammatory cloacogenic polyps
7. Esophageal carcinoids, clinicopathologic studies
8. Pathophysiologic basis of intussusception associated with the rotavirus vaccine
9. Follicular lymphoma of the GI tract
10. Proliferation, apoptosis, and cell adhesion molecules in neoplasms of the colorectum and appendix
11. Neurogenic tumors of the GI tract
12. Pathology of small adenomas of the GI tract
13. Pathology of eosinophilic gastroenteritis
14. Endoscopic detection of dysplasia in Barrett esophagus
15. Immunohistochemical staining patterns in Barrett esophagus
16. Radiologic-pathologic correlations:
 - (a) gastrointestinal hemangiomas
 - (b) gastrointestinal motility disorders
 - (c) non-Hodgkin lymphoma of the appendix
 - (d) appendicitis/appendiceal neoplasms

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. National Cancer Institute: Surveillance, Epidemiology, End Results (SEER) Program, International Classification of Diseases for Oncology and TNM/Prognostic Factors Classification and Cancer Staging.
2. Centers for Disease Control and Prevention: Intussusception and its possible relation to rotavirus vaccine.
3. Centers for Disease Control and Prevention: TNM/Prognostic Factors Classification and Cancer Staging.
4. Naval Medical Research Institute: Pathology of small adenomas of the GI tract.
5. National Institute of Allergy and Infectious Diseases: Pathology of eosinophilic gastroenteritis.
6. Food and Drug Administration, Gastrointestinal Drugs Advisory Committee: Evaluating adverse effects of alosetron in patients with irritable bowel syndrome.
7. Albany VA Medical Center: Diagnostic accuracy of gastrointestinal lesions by telepathology.
8. Walter Reed Army Medical Center/NIH: Endoscopic detection of dysplasia in Barrett esophagus.
9. Walter Reed Army Medical Center: Immunohistochemical staining patterns and cell proliferation in Barrett esophagus.

Civilian:

1. University of Texas, Dallas: Esophageal carcinoids-clinicopathologic studies
2. University of Southampton, UK: Proliferation, apoptosis, and cell adhesion molecules in neoplasms of the colorectum and appendix

International:

1. World Health Organization: International Histological Classification of Tumors
2. World Health Organization: International Classification of Diseases for Oncology (ICD-O)
3. International Agency for Research on Cancer, WHO Classification of Tumors: Pathology and Genetics of Tumors
4. International Union Against Cancer (UICC), TNM/Prognostic Factors Classification and Cancer Staging

Offices and Committee Memberships in National and International Organizations:

LH Sobin

1. Chair, TNM/Prognostic Factors Project of the International Union Against Cancer
2. Head, WHO Collaborating Center for International Histological Classification of Tumors
3. Editor, WHO International Histological Classification of Tumors
4. Member, WHO Expert Advisory Panel on Cancer
5. Series Coeditor, WHO Classification of Tumors: Pathology and Genetics of Tumors
6. Consultant, American Joint Committee on Cancer

Faculty Appointments (Pathology):

1. USUHS, Bethesda, Md, Professor — LH Sobin
2. Georgetown University Medical College, Washington DC, Adjunct Professor — LH Sobin
3. WRAMC, Staff Pathologist (with sign out privileges) — AI Kende

Committees and Offices:

1. Associate Editor, AFIP Atlas of Tumor Pathology;rd Series — LH Sobin
2. Associate Editor, AFIP Atlas of Tumor Pathology;th Series — LH Sobin
3. Associate Editor, AFIP/ARP Atlas of Nontumor Pathology — LH Sobin
4. Member, Credentials Committee — AI Kende
5. Member, Research Committee — HE Remotti
6. Member, Institutional Review Board — NS Dow
7. Coordinator, Interdepartmental Surgical Pathology Conference — DM Burch
8. Coordinator, Gastroenterology-Pathology Correlation Conference — CM Hobbs
9. Director, Center for Scientific Publications — LH Sobin

Continuing Education: The staff received training from the following in 2001:

1. Weekly Hepatic Thursday Clinicopathologic Conference
2. AFIP and ARP Staff Conferences
3. US-Canadian Academy of Pathology courses and annual meeting
4. American Society of Clinical Pathology courses and annual meeting

Official Trips (funding agency in parentheses):

1. January 5-6, 2001, Scottsdale, Ariz, Meeting of American Joint Committee on Cancer — LH Sobin (American College of Surgeons).
2. February 24-25, 2001, London, England, International Association for the Study of Lung Cancer Staging Meeting — LH Sobin (UICC).
3. March 3-7, 2001 Atlanta, Ga, United States and Canadian Academy of Pathology, Annual Meeting — LH Sobin (ARP).
4. April 30-May 5, 2001, Geneva, Switzerland, TNM-Prognostic Factors Project Committee Meeting — LH Sobin (UICC).
5. June 24-July 1, 2001, Milan, Italy, AFIP course, Diagnostic Surgical Pathology — LH Sobin (ARP).
6. August 16-17, 2001, Boston, Mass, WHO/IARC Preparatory Meeting on Pathology and Genetics of Soft Tissue and Bone Tumors — LH Sobin (WHO).
7. September 9-13, 2001, Berlin, Germany, European Congress of Pathology — LH Sobin (ARP).
8. October 5, 2001, Cleveland, Ohio, Cleveland Clinic Foundation, Training in the Interpretation of CK7/CK20 Immunostains in Barrett Esophagus and Gastric Intestinal Metaplasia — CM Hobbs (Henry M. Jackson Foundation)

PRESENTATIONS

1. January 2001: AFIP VA/Military Histopathology Quality Assessment Program, Case No. HQAP-2001-I-2, "Case study: differential diagnosis of amyloidosis and conditions mimicking Crohn disease in the gastrointestinal tract," NS Dow.
2. January 2001: Phoenix, Ariz, American Joint Committee on Cancer, "Activities of the UICC TNM Prognostic Factors Project," LH Sobin.

3. February 2001: Bethesda, Md, National Cancer Institute, Molecular Taxonomy Meeting, "WHO Pathology and Genetics of Tumors," LH Sobin.
4. February 2001: London, UK, Royal Marsden Hospital, International Association for the Study of Lung Cancer meeting, "Principles of TNM classification and the process for modification," LH Sobin.
5. March 2001: Washington, DC, Georgetown University Medical Center, Gastroenterology Division lecture series, "Carcinoid tumors and related neuroendocrine lesions," LH Sobin.
6. April 2001: Bethesda, Md, National Cancer Institute, Gastrointestinal Stromal Tumor Workshop, "Gastrointestinal stromal tumors: prognostic factors," LH Sobin.
7. April 2001: Washington, DC, Georgetown University Medical College. "Pathology of the gastrointestinal tract" (6 lectures to second-year medical students), LH Sobin.
8. April 2001: Washington, DC, Georgetown University Medical College, Department of Pathology, Grand Rounds, "Precancerous lesions of the GI tract and their imitators," LH Sobin.
9. May 2001: Silver Spring, Md, 11 Annual Anatomic Pathology Review Course:
 - (a) "Neoplastic lesions of the esophagus and stomach," NS Dow.
 - (b) "Non-Neoplastic Disorders of the Esophagus and Stomach," AI Kende.
 - (c) "Inflammatory lesions of the Small and Large Intestines," HE Remotti.
 - (d) "Neoplasms of the Lower GI Tract," DM Burch.
10. June 2001: Milan (National Cancer Institute), Italy, AFIP course, Diagnostic surgical pathology:
 - (a) "Precancerous lesions of the GI tract and their imitators," LH Sobin.
 - (b) "Unusual and difficult intestinal polyps," LH Sobin.
11. July 2001: Washington, DC, Walter Reed Army Medical Center Department of Pathology, "Barrett esophagus, dysplasia, and gastric neoplasia," NS Dow.
12. July 2001: Washington, DC, Walter Reed Army Medical Center Department of Pathology, "Gastrointestinal stromal tumors," HE Remotti.
13. August 2001: Washington, DC, George Washington University Medical Center, Department of Pathology, "Esophageal and gastric neoplasia," NS Dow.
14. August 2001: Washington, DC, George Washington University Medical Center, Department of Pathology, "Mesenchymal lesions of the GI tract," HE Remotti.
15. September 2001: Washington, DC, George Washington University Medical Center, Department of Pathology, "Neoplasms of the lower GI tract," DM Burch.
16. September 2001: Berlin, Germany, European Congress of Pathology:
 - (a) "New systems for tumor classification and terminology: TNM and other prognostic factors in cancer," LH Sobin.
 - (b) IAP/ESP Joint Symposium, "Precancerous lesions of the GI tract and their imitators," LH Sobin.
17. September 2001: Washington, DC, Walter Reed Army Medical Center, Monthly Gastroenterology-Pathology Correlation Conference, "Cases of the Month," CM Hobbs.
18. October 2001: Bethesda, Md, AFIP/ARP Course, Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the Gastrointestinal Tract:
 - (a) "Precancerous lesions of the GI tract and their imitators," LH Sobin.
 - (b) "Unusual and difficult intestinal polyps," LH Sobin.
 - (c) "Gastrointestinal carcinoids and neuroendocrine tumors," LH Sobin.
 - (d) "The spectrum of gluten-sensitive enteropathy," CM Hobbs.
 - (e) "Barrett esophagus," NS Dow.
 - (f) "Bizarre reactive stromal cells," DM Burch.
 - (g) "Gastrointestinal stromal tumors," HE Remotti.
19. October 2001: Bethesda, Md, AFIP/ARP Course, Annual Hepatic Surgical Pathology Course, "Hepatic vascular pathology – case presentations," HE Remotti.
20. October 2001: Washington, DC, Armed Forces Institute of Pathology, Weekly Professional Staff Conference:
 - (a) "Malabsorption in the small intestine," CM Hobbs.
 - (b) "Evaluation of esophageal biopsies," NS Dow.
 - (c) "Carcinoid tumors in the setting of atrophic gastritis," HE Remotti.

21. October 2001: Bethesda, Md, Uniformed Services University of the Health Sciences, "Pathology of the gastrointestinal tract" (4 lectures to second-year medical students), LH Sobin.
22. October 2001: Washington, DC, Walter Reed Army Medical Center, Monthly Gastroenterology-Pathology Correlation Conference, "Cases of the Month," CM Hobbs.
23. October 2001: Philadelphia, Pa, 2001 ASCP/CAP Meeting, "Pitfalls in the diagnosis of neuroendocrine and mesenchymal tumors in the small intestine," HE Remotti.
24. November 2001: Washington, DC, Georgetown University Medical College Department of Pathology:
 - (a) "The spectrum of gluten-sensitive enteropathy," CM Hobbs
 - (b) "Gross pathology of the GI tract," CM Hobbs.
25. November 2001: Washington, DC, Walter Reed Army Medical Center, Monthly Gastroenterology-Pathology Correlation Conference, "Cases of the Month," AI Kende.
26. December 2001: New York, NY, Columbia University, Department of Pathology, "Gastrointestinal stromal tumors, diagnostic and treatment issues," HE Remotti.

PUBLICATIONS

Journal Articles

1. Nzeako UC, Sobin LH. Intestinal involvement by metastatic melanoma [letter]. *Gastrointest Endosc.* 2001;53:403.
2. Cunningham RE, Abbondanzo SL, Chu W-S, Emory TS, Sobin LH, O'Leary TJ. Apoptosis, bcl-2 expression, and p53 expression in gastrointestinal stromal/smooth muscle tumors. *Appl Immunohistochem Mol Morphol.* 2001;9:19-23.
3. Li SQ, O'Leary TJ, Buchner S-B, Przygodzki RM, Sobin LH, Erozan YS, Rosenthal DL. Fine needle aspiration of gastrointestinal stromal tumors. *Acta Cytol.* 2001;45:9-17.
4. Sobin LH. TNM: principles, history, and relation to other prognostic factors. *Cancer.* 2001;91(suppl):1589-1592.
5. Gospodarowicz M, MacKillop W, O'Sullivan B, Sobin L, Henson D, Hutter RV, Wittekind C. Prognostic factors in clinical decision making: the future. *Cancer.* 2001;91(suppl):1688-1695.
6. Miettinen M, Shekitka KM, Sobin LH. Schwannomas in the colon and rectum: a clinicopathologic and immunohistochemical study of 20 cases. *Am J Surg Pathol.* 2001;25:846-855.
7. Sobin LH, Greene FL. TNM classification: clarification of number of regional lymph nodes for pN0. *Cancer.* 2001;92:452.
8. Miettinen M, Sarlomo-Rikala M, Sobin LH. Mesenchymal tumors of the muscularis mucosae of colon and rectum are benign leiomyomas that should be separated from gastrointestinal stromal tumors: a clinicopathologic and immunohistochemical study of eighty-eight cases. *Mod Pathol.* 2001;14:950-956.
9. Miettinen M, Furlong M, Sarlomo-Rikala M, Burke A, Sobin LH, Lasota J. Gastrointestinal stromal tumors, intramural leiomyomas, and leiomyosarcomas in the rectum and anus: a clinicopathologic, immunohistochemical, and molecular genetic study of 144 cases. *J Surg Pathol.* 2001;25:1121-1133.
10. Miettinen M, Sobin LH. Gastrointestinal stromal tumors in the appendix: a clinicopathologic and immunohistochemical study of four cases. *Am J Surg Pathol.* 2001;25:1433-1437.
11. Hobbs CM, Lowry MA, Owen D, Sobin LH. Anal gland carcinoma. *Cancer.* 2001;92:2045-2049.
12. Sobin LH. TNM classification: clarification of number of regional lymph nodes for pN0 [letter]. *Br J Cancer.* 2001;85:780.
13. Yang Y, Forslund A, Remotti H, Lonnroth C, Andersson M, Brevinge H, Svanberg E, Lindner P, Hafstrom L, Naredi P, Lundholm K. p53 mutations in primary tumors and subsequent liver metastases are related to survival in patients with colorectal carcinoma who undergo liver resection. *Cancer.* 2001; 91:727-736.
14. Weyant MJ, Carothers AM, Mahmoud NN, Bradlow HL, Remotti H, Bilinski RT, Bertagnolli MM. Reciprocal expression of ER alpha and ER beta is associated with estrogen-mediated modulation of intestinal tumorigenesis. *Cancer Res.* 2001; 61:2547-5251.

15. Soslow RA, Petersen CG, Remotti H, Altorki N. Acidic fibroblast growth factor is expressed sequentially in the progression from Barrett's esophagus to esophageal adenocarcinoma. *Dis Esophagus*. 2001;14:23-27.
16. Levy AD, Abbott RM, Rohrmann CA, Frazier AA, Kende A. Gastrointestinal Hemangiomas: imaging findings with pathologic correlation in pediatric and adult patients. *Am J Roentgenol*. 2001;177:1073-1081.
17. Bender GN, Kende AI, McLarney JK. Intestinal mural stratification: etiopathology, etiology, and the extreme. *Appl Radiol*. 2001;30:38-52.

Books

1. Wittekind C, Henson DE, Hutter RVP, Sobin LH, eds. *ENM Supplement: A Commentary on Uniform Use*. 2nd ed. New York, NY: John Wiley & Sons; 2001.
2. Gospodarowicz MK, Henson DE, Hutter RVP, O'Sullivan B, Sobin LH, Wittekind C, eds. *Prognostic Factors in Cancer*. 2nd ed. New York, NY: John Wiley & Sons; 2001.
3. Sobin LH, Wittekind C, Akerley W, eds. *ENM Classification of Malignant Tumors* [electronic edition]. New York, NY: John Wiley & Sons; 2001.

Abstracts

1. Levy AD, Rohrmann CA, Kende AI, Schufflaer MD, Shobak K. Gastrointestinal motility disorders: radiologic-pathologic correlation. Radiological Society of North America 87th Scientific Assembly and Annual Meeting; November 24-30, 2001.
2. Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI. Primary neoplasms of the appendix neoplasms manifesting as acute appendicitis: CT findings with pathologic correlation. *Radiology*. 2001;221(P):492.



Charles W. Pemble, Col, USAF, DC
Chair
Date of Appointment — 1 January 2001

○ ○ ○
○ ○ ○
○ ○ ○

DEPARTMENT OF ORAL AND MAXILLOFACIAL PATHOLOGY

MISSION

The Department of Oral and Maxillofacial Pathology provides diagnostic consultation in diseases of the oral mucosal and soft tissues, the jaws, and the major and minor salivary glands, and enhances the understanding of these diseases through research and education. The department also supports the Office of the Armed Forces Medical Examiner with expertise in forensic dentistry and provides on- and off-site training in forensic Odontology for the Army, Air Force, and Navy.

STAFF

Medical:

- Charles W. Pemble, Col, USAF, DC, Chair
- Gary L. Ellis, DDS, Assistant Chair
- Douglas M. Arendt, CAPT, DC, USN, Chief of Forensic Dentistry
- Esther Childers, COL, DC, USA
- Stephen B. Williams, LTC, DC, USA
- Kevin Torske, LCDR, DC, USN
- (D) Donald Tyler, Capt, USAF, DC
- (A) Mark Demsar, MAJ, DC, USA, resident
- (A) David Nunez, Maj, USAF, DC, resident
- (A) Brenda Nelson, LCDR, DC, USN, resident

Administrative:

Patricia Ashburn, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military.....	343
Army.....	(135)
Navy.....	(110)
Air Force.....	(98)
Federal.....	210
VA.....	(191)
USPHS.....	(0)
OFA.....	(12)
Civilian.....	1,098
Interdepartmental.....	190
Total.....	1,841

Our department received 1,652 outside cases with a total of 7,171 microslides. We made no change in the contributor diagnosis in 781 cases, a minor change in diagnosis in 624 cases, and a major change in diagnosis in 81 cases. We received 163 cases with no contributor diagnosis; 3 cases were recorded without coding.

806 cases for consultation, 234 for education, and 21 for research required the following types of procedures and analyses:

- H&E stain: 5695
- Special stains: 519
- Immunohistochemical stains: 3192 slides for 337 cases
- Total AFIP slides studied: 9162
- Contributor slides studied: 7,171

A major change in the diagnosis occurred with 274 cases (15% of total cases), and a minor change in diagnosis was made for 699 cases (38% of total cases.) Radiographs were reviewed and analyzed in approximately 300 cases involving jaw lesions. In addition, bitemark analysis and age-assessment studies were performed for 5 cases. Telepathology consultation was performed for 15 cases, and cytopathologic examination was performed on 10 fine needle aspirations.

Impact:

1. The department coordinated the design, acquisition, and implementation of the first “all-digital” postmortem dental identification facility at the Dover Port Mortuary, Dover AFB, Delaware. The deployable forensic dental identification training laboratories were deployed to 13 military commands and provided 4,480 man-hours of training for future mass casualty disasters.
2. At the annual meeting of the American Academy of Oral and Maxillofacial Pathology, the AFIP Slide Seminar continues to be the most popular continuing education course, and it is always fully subscribed. In its 23rd year, the seminar promotes the department and the Registry of Oral and Maxillofacial Pathology as a world leader in the area of oral and maxillofacial pathology.
3. The third year of the residency program in oral and maxillofacial pathology, National Naval Dental School, was restructured to provide opportunities for slide and case review with staff, both individually and collectively. Presentation of a research project at the annual meeting of the American Academy of Oral and maxillofacial pathology promotes our missions of education and research.
4. Among the staff of the department is the consultant to the Surgeon General of the Army for oral and maxillofacial pathology, HIV, and forensic dentistry; the consultant to the Surgeon General of the Air Force for forensic dentistry; and the consultant to the Surgeon General of the Navy for forensic dentistry.

Deployments:

1. January 18-19, 2001, Dover AFB, Delaware, Port mortuary planning meeting, Capt Arendt
2. January 30-February 1, 2001, Orlando, Florida, DOJ/NCFS planning panel to develop mass fatality guidelines, Capt Arendt
3. April, 2001, Dover AFB, Delaware, forensic identification mission, COL Childers
4. June 2-5, 2001, Ft Pierce, Florida, forensic identification mission, Col Pemble
5. June 1-2, 2001, Orlando, Florida, DOJ/NCFS planning committee & TWG to develop mass fatality guidelines, Capt Arendt
6. July, 2001, Manassas, Virginia, forensic identification mission, Capt Arendt
7. July, 2001, Rockville Maryland, forensic identification mission, Capt Arendt and Maj Nunez
8. July 18-26, 2001, China Lake, California, forensic identification mission, Col Pemble
9. August 12-17, 2001, Yugoslavia, forensic identification mission, Capt Arendt

10. September 2001, Orlando, Florida. DOJ/NCFS planning committee for mass fatality guidelines, Capt Arendt
11. September 12-October 10, 2001, Dover AFB, Delaware, Operation Noble Eagle forensic identification mission, Drs. Pemble, Arendt, Childers, Williams, Torske, Nelson, Nunez, and Demsar
12. October 29, 2001, Rockville, Maryland, forensic identification mission, LTC Williams
13. November, 2001, Orlando, Florida, DOJ/NCFS mass fatality guidelines planning panel, Capt Arendt

EDUCATION

Presentations and Seminars: Members of the department made 81 presentations at conferences and seminars during 2001, for 19,021 man-hours of training. In addition, the staff conducted an AFIP/CAP Wednesday Staff Conference, and participated in interdepartmental bimonthly educational slide conference with the Department of Otolaryngic and Endocrine Pathology and a bimonthly radiologic-pathologic conference with the Department of Radiologic Pathology and the Department of Otolaryngic and Endocrine Pathology. Further, portable forensic dental identification workshop kits were deployed 13 times for 4,480 man-hours of training of military personnel.

Courses: Department staff participated in 12 AFIP/ARP courses, including the department's Forensic Identification Course, for a total of 11,122 man-hours of training. Military mission requirements following the terrorist attacks of September 11, 2001 required cancellation of the Surgical Oral and Maxillofacial Pathology Course. The staff participated in 13 non-AFIP courses, for 1,809 man-hours of education.

Trainees: The department had 3 third-year residents in oral and maxillofacial pathology from July 1 to December 31, 2001. They will be completing another 6 months of training in 2002. The department had 3 visiting pathologists for 20 man-days of training.

Educational Aids: The Registry of Oral and Maxillofacial Pathology Cases of the Month are posted on the department's Web site. It is utilized by pathologists for peer review and education. Each case is originally presented as an unknown and then followed up with a presentation of peer-reviewed diagnoses, AFIP diagnosis, and a discussion. Twelve new cases are posted each year; older cases are archived on the Web site and are available for study. Three deployable forensic dental identification training laboratories are available and were deployed to 13 military commands and provided 4,480 man-hours of training in 2001.

RESEARCH

Publications: Members of the department were authors of 3 journal articles.

Projects:

1. The association of Epstein-Barr virus with tumor-associated lymphoid proliferation in salivary gland carcinomas
2. Sialoblastomas
3. Molecular diagnosis of malignant salivary gland tumors
4. Mesenchymal tumors of the head and neck
5. Dermoid cysts of the maxillary sinus
6. Cytokeratin 7 and 20 expression in salivary gland tumors
7. Chondrosarcomas of the jaws
8. Clear cell odontogenic tumors
9. Chondroblastomas of the craniofacial region
10. Middle ear adenomas

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Frederic Kaye, MD, molecular diagnosis of malignant salivary gland tumors
2. Keith Kaplan, MD, desmoplastic fibroma of the jaw

International:

Jin Kim, DDS, PhD, sarcomatoid ameloblastoma

Interdepartmental:

1. Julie Fanburg-Smith, MD, soft tissue tumors of the head and neck
2. Lester Thompson, MD, Dermoid cysts of the maxillary sinus
3. Lester Thompson, MD, middle ear adenomas

Committees:

Editorial Boards:

Annals of Diagnostic Pathology, G Ellis

Manuscripts Reviewed: Members of the department reviewed 3 articles for the following professional journals:

1. *Annals of Diagnostic Pathology*
2. *Cancer*

Offices/Committee Memberships in National or International Societies:

1. Member, Education Committee, American Academy of Oral and Maxillofacial Pathology, D Arendt
2. Board of Governors, American Society of Forensic Odontology, D Arendt
3. Board of Directors, American Board Forensic Odontology, D Arendt
4. Webmaster, American Society of Forensic Odontology, D Arendt
5. Team Leader, Planning Panel and Technical Working Group, Dept of Justice, NCFS, D Arendt
6. Chair, Long-Range Planning Committee, American Academy of Oral and Maxillofacial Pathology, G Ellis
7. Chair, Nominations Committee, American Academy of Oral and Maxillofacial Pathology, G Ellis

Official Trips (funding agency in parentheses):

1. March 2001, International Academy of Dental Research, Chicago, Ill, K Torske (Department of Research, National Naval Dental Center, Bethesda, Md)
2. April 2001, American Academy of Oral and Maxillofacial Pathology, Chicago, Ill, C Pemble, G Ellis, D Arendt, E Childers, D Tyler, K Torske (ARP)
3. October 2001, American Board of Oral and Maxillofacial Pathology (board examination), Tampa, Fla, K Torske (Naval School of Health Sciences, Bethesda, Md)
4. September 2001, Operation Noble Eagle, Dover Air Force Base, Del, C Pemble, D Arendt, E Childers, D Tyler, K Torske, B Nelson, D Nunez, W Demsar (AFIP)

Continuing Education: Department staff attended the following training courses during 2000: Annual Meeting of the American Academy of Oral and Maxillofacial Pathology (ARP), Annual Meeting of the Academy of Forensic Sciences (AFIP)

Public Affairs Reports:

1. TV, 3-hour special, public broadcast on Forensic Dentistry, (18 stations) Chicago, Ill, July 2001, D Arendt
2. Radio, interview on Operation Noble Eagle, Washington, DC, December, 2001, C Pemble, D Arendt, E Childers, S Williams, K Torske
3. Print, Forensic dentistry plays essential role following Pentagon terrorist crash
AFIP LETTER, October 2001, C Pemble

PRESENTATIONS

1. January 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
2. January 2001: Washington DC, Radiology AFIP, "Advanced imaging in oral and maxillofacial pathology," E Childers
3. January 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
4. January 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
5. January 2001: Washington, DC, AFIP slide seminar, "Odontogenic pathology," K Torske

6. February 2001: Keesler AFB, MS, AEGD-1 Program, "Forensic dentistry and dental identification," C Pemble.
7. February 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
8. February 2001: Bethesda, Md, "Bone pathology," K Torske
9. February 2001: Bethesda, Md, National Naval Dental Center, "Pediatric oral pathology," E Childers
10. February 2001: Bethesda, Md, Naval Dental School's Oral Pathology course, "Clinicopathologic conference," K Torske
11. February 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
12. February 2001: Bethesda, Md, National Naval Dental Center, "Clinicopathologic conference; oral surgery board review," K Torske
13. February 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
14. February 2001: Bethesda, Md, National Naval Dental Center, "Bone pathology," K Torske
15. February 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
16. February 2001: Washington, DC, WRAMC, "Bone Pathology," K Torske
17. February 2001: Bethesda, Md, Naval Medical Center, "Salivary gland neoplasms and diseases," G Ellis
18. February 2001: Birmingham, Ala, Department of Pathology, University of Alabama Medical Center, "Problems in surgical pathology of salivary gland neoplasms" and "Slide seminar," G Ellis
19. February 2001: Seattle, Wash, American Society of Forensic Odontology, "The role of the DoD Port Mortuary," D Arendt
20. February 2001: Bethesda, Md, National Naval Dental School, "Lessons learned, pathologist and clinician as a team," D Arendt
21. March 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
22. March 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
23. March 2001: Washington DC, Radiology AFIP, "Advanced imaging in oral and maxillofacial pathology," E Childers
24. March 2001: Bethesda, Md, National Naval Medical Center, Unknown slide conference, "Slide seminar," K Torske
25. March 2001: Bethesda, Md, Basic Science Course in Otolaryngology/Head and Neck Surgery, "Bone pathology," K Torske
26. March 2001: Washington, DC, WRAMC, Unknown slide conference, "Slide seminar," K Torske
27. March 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
28. March 2001: Bethesda, Md, National Naval Medical Center, Unknown slide conference, "Slide seminar," K Torske
29. March 2001: Washington, DC, WRAMC Unknown slide conference, "Slide seminar," K Torske
30. March 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
31. March 2001: Chicago, Ill, International Academy of Dental Research Meeting, "The association of Epstein-Barr virus with tumor-associated lymphoid proliferation in salivary gland carcinomas," K Torske
32. March 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
33. March 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology slide conference, "Slide seminar," K Torske
34. March 2001: Silver Spring, Md, ARP/AFIP Annual Course, "Overview of forensic odontol-

- ogy," D Arendt
35. April 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
36. April 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
37. April 2001: Washington, DC Walter Reed Army Medical Center, "Developing a differential diagnosis" and "Pediatric oral pathology," E Childers
38. April 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
39. April 2001: Chicago, Ill. American Academy of Oral and Maxillofacial Pathology, "AFIP slide seminar," C Pemble, G Ellis, D Arendt, E Childers, D Tyler, K Torske
40. April 2001: Bethesda, Md, DC Dental Society, "Overview of mass fatality organization," D Arendt
41. April 2001: Gaithersburg, Md, National Radiologic Society, "Forensic Radiology," D Arendt
42. April 2001: Washington, DC, DC Capital Society, "Overview of forensic odontology," D Arendt
43. April 2001: Washington, DC, Queensland Police (Interpol), "AFIP MFI approaches," C Pemble, D Arendt, E Childers
44. April 2001: Rockville, Md, George Washington University, "ID & Bitemarks," D Arendt
45. May 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
46. May 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
47. May 2001: Washington DC, Radiology AFIP, "Advanced imaging in oral and maxillofacial pathology," E Childers
48. May 2001: Gaithersburg, Md, WRAMC Oral Medicine and Oral Pathology course, "Salivary gland pathology," K Torske
49. May 2001: Bethesda, Md, ARP/AFIP Anthropology Course, "Overview of forensic odontology," D Arendt
50. May 2001: Washington, DC, FRENZY EXPO, "Odontology exhibit," D Arendt
51. May 2001: Washington, DC, Rappahannock High School, "Investigation and ID," D Arendt
52. May 2001: Washington, DC, Bolling AFB, "Overview of forensic odontology," D Arendt
53. May 2001: San Francisco, Calif, UCSF/Stanford Current Issues in Anatomic Pathology: 2001, "Problem diagnoses in salivary gland tumors" and "New diagnoses in salivary gland pathology," G Ellis
54. June 2001: Milan, Italy, National Cancer Institute of Italy, "Salivary gland pathology, I and II," G Ellis
55. June 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
56. June 2001: Washington, DC, AFIP Fellows' research presentation, "Middle ear adenomas," K Torske
57. June 2001: Washington, DC, Knoxville High School, "Odontology overview," E Childers
58. June 2001: Washington, DC, National Youth League Federal Medicine, "Overview & surgical pathology cases," D Arendt
59. July 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
60. July 2001: Chicago, Ill, American Dental Association, "Domestic violence and digital analysis of pattern Injuries," D Arendt
61. August 2001: Washington, DC, AFIP Weekly Professional Staff Conference, "Middle ear adenomas," K Torske
62. August 2001: Washington DC, Radiology AFIP, "Advanced imaging in oral and maxillofacial pathology," E Childers
63. August 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
64. September 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske

65. September 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
66. September 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
67. September 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
68. October 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
69. October 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
70. October 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
71. November 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
72. November 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
73. November 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
74. November 2001: Washington, DC, AFIP slide seminar, "Salivary gland pathology," K Torske
75. November 2001: Bethesda, Md, ARP/OAFME course, "Overview of odontology," D Arendt
76. November 2001: Rockville, Md, George Washington University, "Odontology & Medical Legal Cases," D Arendt
77. November 2001: Prince Georges, Md, PGCC, "Overview of Odontology & Medical Legal cases," D Arendt
78. November 2001: Washington, DC, Navy Bureau of Medicine, "Current issues in forensic odontology," D Arendt
79. December 2001: Washington, DC, AFIP Otolaryngic Pathology/Oral & Maxillofacial Pathology conference, "Slide seminar," K Torske
80. December 2001: Washington, DC, AFIP Weekly junior staff pathology conference, "Slide seminar," K Torske
81. December 2001: Salt Lake City, Utah, Department of Pathology, University of Utah Medical Center, "Problems in surgical pathology of salivary gland neoplasms" and "Slide seminar," G Ellis

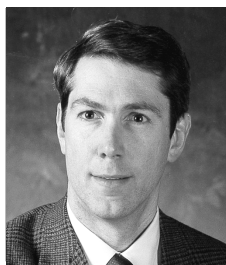
PUBLICATIONS

Journal Articles

1. Torske KR, Benson GS, Warnock G. Dermoid cyst of the maxillary sinus. *Am J Surg Diagn Pathol* 2001;5:172-176.
2. Fixott RH, Arendt D, Chrz B, Filippi J, McGivney J, Warnick A. Role of the dental team in mass fatality incidents. *Dent Clin North Am*. 2001;45:271-292.
3. Kuo WP, Sirois DA, Pemble CW. Locally aggressive solitary fibrous tumor in the infratemporal region: a case report and review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2001;92:308-311.

Other Publications

Arendt DM. Operation Noble Eagle: Electronic mass disaster identification triage utilized following Pentagon attack. *AFIP LETTER* 2001;159 (5):8-9.



William D. Travis, MD
Chair
Date of Appointment —1 November 1993

○ ○ ○
○ ○ ○
○ ○ ○

DEPARTMENT OF PULMONARY AND MEDIASTINAL PATHOLOGY

MISSION

The Department of Pulmonary and Mediastinal Pathology provides consultation, education, and research in pulmonary and mediastinal pathology to military and civilian pathologists and medical practitioners worldwide.

STAFF

Medical:

Teri Franks, MD
Dennis L. Hayden, MD
Matthew Horton, MD
William D. Travis, MD

NIH/AFIP Pulmonary Pathology Fellowship Program:

Siobhan Nicholson, MD
Ping He, MD
Teh-Ying Chou, MD

National Heart Lung and Blood Institute/AFIP Fellow:

Hiroshi Minato, MD, Kanazawa University Hospital, Kanazawa City, Japan
Fumiyuki Kumaki, National Defense Medical College, Tokorozawa, Japan
Takeshi Fujii, MD, Tokyo University, Tokyo Japan

Administrative:

Tammie Winters, Administrative Officer
Kim Williams, Secretary
Cassandra Scott, Administrative Clerk

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	265
Army.....	(124)
Navy.....	(57)
Air Force.....	(84)
Federal	560
VA.....	(536)
USPHS.....	(0)
OFA.....	(24)
Civilian	1,403
Interdepartmental	445
Total	2,484

Evaluation of cases required the following types of procedures and analyses:

- H&E stains – 6,171 slides
- Special stains – 2,152 slides
- Immunohistochemical staining – 12,385 slides
- Electron microscopy – 7 cases
- Direct immunofluorescence – 48 tests for 4 cases
- Molecular biology examination – 137 tests for 60 cases
- Total recuts studied – 15,508
- Contributor slides studied – 17,855

Our department made no change in the contributor diagnosis in 1,070 cases, a minor change in diagnosis in 608 cases, and a major change in diagnosis in 68 cases. We received 483 cases with no contributor diagnosis.

EDUCATION

Presentations and Seminars: Department staff made 44 presentations at professional meetings and symposia in 2001. A complete list of dates and titles appears at the end of this report. In addition, Dr. Travis presents the lung pathology for the monthly, quarterly, and annual meetings of the Washington, DC Thoracic Society, the local chapter of the American Thoracic Society. He regularly presents the pathology for the case presentations for those patients with available lung pathology specimens. These specimens are often submitted to the department in advance from hospitals around the Washington, DC area. Dr. Travis also participates in a bimonthly pulmonary journal club for DC thoracic physicians.

Courses: Our department conducted or participated in 1 AFIP course and 4 non-AFIP courses in 2001.

Trainees: Our department is well recognized as an international center for training in pulmonary pathology. In the past year, visitors from Brazil (5 months), Norway (1 month), and Switzerland (1 week) spent their sabbaticals in our department. We have received many applications for future fellowship positions from around the US and the world, including Israel. Our resources provide a unique opportunity for fellowship training, a major priority of the department. During 2001: we had 2 doctors rotate in the department from Howard University, 1 from Washington VA, 1 from Winthrop University, NY, 1 from St. Louis University, Mo, 1 from Washington Hospital Center, 1 from Dianon Systems, Conn, and 1 from Pott Medical Center, Pontiac, Mich.

Educational Aids: Our department has one of the most extensive slide teaching collections in the world for pulmonary and mediastinal pathology cases. Over 4,000 cases are accessioned into this study set. Departmental fellows, staff, and visiting physicians are able to utilize this invaluable resource for education, teaching, and publications. We also have Kodachrome study sets and CD-ROM-based teaching materials.

RESEARCH

Publications: Department staff published 14 journal articles, 16 abstracts, and 1 book chapter. Complete references are listed at the end of this report.

Projects: In 2001: the department maintained 15 research protocols, as listed below:

1. Histogenesis of Alveolar Adenoma
2. Lymphangioleiomyomatosis
3. p53 Mutations in Patients with Multiple Lung Cancer
4. Neuroendocrine Tumors of the Lung
5. Loss of Heterozygosity and Hypermethylation of p16 in Malignant Mesothelioma
6. Immunohistochemical Staining for p53, PDGF, and p16 Antibodies in Malignant Mesotheliomas and Atypical Mesothelial Hyperplasia
7. Immunohistochemical Staining for p53, WT1, and Decorin in Malignant Mesotheliomas and Adenocarcinomas
8. Inflammatory Pseudotumor of the Lung: A Clinicopathologic Study of 75 Cases
9. Pulmonary Sclerosing Hemangioma
10. Atypical Carcinoid Tumors of the Lung
11. Pulmonary Carcinosarcomas

12. Chronic Fibrosing Pleuritis, Atypical Mesothelial Hyperplasia, and Desmoplastic Mesothelioma
13. Molecular Biology of Lung Cancer
14. Histologic Analysis and Immunohistochemical Staining Profile of Idiopathic Pulmonary Blastoma
15. Use of Immunohistochemistry in Determination of Primary Sites for Carcinoma Presenting in the Mediastinum and Separation of Thymoma from Atypical Thymoma and Thymic Carcinoma

Research Funds Received:

\$4800: Interstitial Lung Disease, IPF SCOR Grant, University of Michigan

Grant Participation:

1. Reviewer of pathology specimens and coinvestigator for National Heart, Lung, and Blood Institute cooperative agreement grant for NHLBI Lymphangioleiomyomatosis Registry — WD Travis.
2. Reviewer of pathology specimens for Idiopathic Pulmonary Fibrosis SCOR grant for the University of Michigan.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. National Institutes of Health, National Heart, Lung, and Blood Institute, lymphangioleiomyomatosis and interstitial lung disease.
2. National Cancer Institute, molecular biology of lung cancer.

Civilian:

1. Mayo Clinic, molecular biology of lung cancer, neuroendocrine lung tumors.
2. Brompton Hospital, London, England, neuroendocrine lung tumors.
3. University of Grenoble, France, neuroendocrine lung tumors, molecular biology of lung cancer.
4. Caen, France, molecular biology of lung cancer, malignant mesothelioma.
5. University of Maastricht, The Netherlands, neuroendocrine lung tumors.
6. Emory University, Atlanta, Ga, inflammatory pseudotumors.
7. University of Southern California, Los Angeles, interstitial lung disease.
8. University of California, San Francisco, interstitial lung disease.
9. Stanford University, Calif, lymphangioleiomyomatosis.
10. Tufts University, Boston, Mass, lymphangioleiomyomatosis.

Intramural:

1. Department of Hematopathology, bcl2 in lung carcinomas and neuroendocrine lung tumors.
2. Department of Cellular Pathology, molecular biology of lung cancer.
3. Department of Radiologic Pathology, interstitial lung disease, Bronchioloalveolar carcinoma.

Additional Collaborators

1. Wythenshawe Hospital, Manchester, England
2. Pulmonary Branch, National Institutes of Health, Bethesda, Md
3. Medical College of Wisconsin, Milwaukee, Wis
4. Virginia Mason Medical Center, Seattle, Wash
5. University of Utah, Salt Lake City, Utah
6. Department of Pathology, Hospital de la Croix Rousse, HCL, Lyon, France
7. Department of Pathology, Nagasaki University Hospital, Nagasaki, Japan
8. National Cancer Institute, Rockville, Md
9. Pathology Section and Pulmonary-Critical Care Medicine Branch, National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health, Bethesda, Md

10. University of Manchester School of Medicine, UK
11. Royal Brompton Hospital, London, UK
12. Prince Alexandra Hospital. Woolloongabba, Australia
13. National Cancer Center Hospital, Tokyo, Japan

Panels:

WD Travis

1. Chair, Pathology Panel, International Association for the Study of Lung Cancer
2. Member, US-Canadian Mesothelioma Reference Panel
3. Member, International Association for the Study of Lung Cancer/National Cancer Institute SPORE Pathology Working Group: Classification of Preinvasive Epithelial Abnormalities of Lung
4. Member, International Mesothelioma Panel
5. Cochair, American Thoracic Society/European Respiratory Society International Multidisciplinary Panel for Classification of Idiopathic Interstitial Pneumonias

Committees (Extramural):

WD Travis

Program Committee, American Thoracic Society Assembly on Clinical Problems

Editorial Boards:

WD Travis

1. *American Journal of Surgical Pathology*
2. *Human Pathology*
3. *Atlas of Tumor Pathology, AFIP Fascicle 4th Series*
4. *Lung Cancer*
5. *Clinical Cancer Research*

Offices and Committee Memberships in National and International Societies:

WD Travis

1. Staging Committee, International Association for the Study of Lung Cancer
2. Program Committee, American Thoracic Society Assembly on Respiratory Structure and Function
3. Vice President, Pulmonary Pathology Society

Manuscripts Reviewed:

WD Travis

1. *Modern Pathology* (3)
2. *American Journal of Surgical Pathology* (13)
3. *Chest* (2)
4. *Clinical Cancer Research* (2)
5. *American Journal of Pathology* (2)
6. *International Journal of Cancer* (1)
7. *Human Pathology* (5)
8. *American Journal of Respiratory and Critical Care Medicine* (1)
9. *Annals of Oncology* (2)
10. *Pulmonary Pathology* (1)

Faculty Appointments:

1. Adjunct Clinical Instructor, USUHS — M Horton
2. Adjunct Professor, Department of Pathology, Georgetown University School of Medicine — WD Travis
3. Adjunct Associate Professor, Department of Pathology, USUHS — WD Travis

Clinical Staff Appointments:

1. Adjunct Staff, Department of Pathology, WRAMC — M Horton
2. Consultant, Pulmonary Pathology, Laboratory of Pathology, National Cancer Institute,

National Institutes of Health — WD Travis

3. Consultant, Pulmonary Pathology, Pathology and Pulmonary Branch, National Heart, Lung, and Blood Institute, National Institutes of Health — WD Travis

Chair or Moderator of Sessions at Academic Meetings:

WD Travis

1. March 3, 2001: Comoderator, Biphasic Lung Tumors, Atypical Adenomatous Hyperplasia and Bronchioloalveolar Carcinoma, Pulmonary Pathology Society, Atlanta, Ga
2. December 13-16, 2001: Cochair, American Thoracic Society Workshop on Nonspecific Interstitial Pneumonia. Armed Forces Institute of Pathology, Washington, DC

Official Trips (funding agency in parentheses):

1. January 26, 2001: Madigan Army Medical Center, Tacoma, Wash (Department of Defense)
2. June 8, 2001: Brazilian Congress of Pathology, Bahia, Salvador, Brazil (Brazilian Congress of Pathology)
3. June 15, 2001: Anglo-French Pulmonary Pathology Club (Anglo-French Pulmonary Pathology Club/American Registry of Pathology)
4. August 17, 2001: Pulmonary Pathology Society, Second Biannual Meeting, Seattle, Wash (American Registry of Pathology)
5. September 21, 2001: Institute of Pathology, Basel University, Basel Switzerland (Basel University)
6. November 5, 2001: Chest 2001: American College of Chest Physicians, Philadelphia, (American Registry of Pathology)

PRESENTATIONS

Dr. Teri Franks

1. April 2001: Bethesda, Md, "Lung Tumors: The WHO Classification," Thoracic Pathology with Clinical and Radiologic Correlation.
2. April 2001: Bethesda, Md, "Unusual Tumors and Tumorlike Lesions of the Lung," Thoracic Pathology with Clinical and Radiologic Correlation.
3. May 2001: Silver Spring, Md, "Pulmonary Pathology," Armed Forces Institute of Pathology, 11th Annual Anatomic Review Course.
4. September 2001: Iowa City, Iowa, "Lung Tumors: The WHO Classification," Invited Speaker, Department of Internal Medicine, Division of Pulmonary, Critical Care, and Occupational Medicine, University of Iowa Hospitals and Clinics.
5. October 2001: Washington, DC, "Lung Tumors: The WHO Classification," Invited Speaker, Departments of Pathology, Walter Reed Army Medical Center and National Naval Medical Center.
6. October 2001: Washington, DC, "Unusual Tumors and Tumorlike Lesions of the Lung," Invited Speaker, Departments of Pathology, Walter Reed Army Medical Center and National Naval Medical Center.

Dr. Ping He

7. February 2001: Washington, DC, "P27 Expression in Pulmonary Neuroendocrine Tumors," "Weekly Professional Staff Conference," Armed Forces Institute of Pathology.
8. March 2001: Atlanta, Ga, "The Significance of P27 Expression in Pulmonary Neuroendocrine (NE) Tumors," 90th Annual Meeting of the United States and Canadian Academy of Pathology.
9. October 2001: Bethesda, Md, "Gene Expression Profiling Based on cDNA Microarrays and Laser Capture Microdissection of Pulmonary Neuroendocrine Tumors," Laboratory of Human Carcinogenesis, National Institutes of Health.
10. January 2001: Washington, DC, "Interstitial Lung Disease," Georgetown University School of Medicine.

Dr. William Travis

11. January 2001: Washington, DC, "Lung and Pleural Tumors," Georgetown University School of Medicine.
12. January 2001: Tacoma, Wash, "Interstitial Lung Disease," Madigan Army Medical Center.

13. January 2001: Tacoma, Wash, "Pathology of Pulmonary Vasculitis," Madigan Army Medical Center.
14. January 2001: Tacoma, Wash, "Microscope Tutorial: Non-neoplastic Lung Disease," Madigan Army Medical Center.
15. March 2001: Chicago, Ill, "Slide Seminar on Tumors and Tumorlike Lesions of the Lung," American Society of Clinical Pathology.
16. April 2001: Bethesda, Md, "Pathology of Pulmonary Vasculitis," Pulmonary Pathology with Clinical and Radiologic Correlations.
17. April 2001: Bethesda, Md, "Pulmonary Lymphoproliferative Disorders," Pulmonary Pathology with Clinical and Radiologic Correlations.
18. June 2001: Sao Paulo, Brazil, "Microscope Tutorial: Difficult Cases in Lung Pathology," University of Sao Paulo.
19. June 2001: Bahia, Salvador, Brazil, "The ATS/ERS Classification of Idiopathic Interstitial Pneumonias," Brazilian Congress of Pathology.
20. June 2001: Bahia, Salvador, Brazil, "Pathology of Pulmonary Infections," Brazilian Congress of Pathology.
21. June 2001: Bahia, Salvador, Brazil, "Unusual Tumors of the Lung," Brazilian Congress of Pathology.
22. June 2001: Bahia, Salvador, Brazil, "Molecular Pathology of Lung Cancer," Brazilian Congress of Pathology.
23. June 2001: Fairfax, Va, "Interstitial Lung Disease," Fairfax Inova Hospital.
24. June 2001: "The ATS/ERS Classification of Idiopathic Interstitial Pneumonias," Anglo-French Pulmonary Pathology Club.
25. August 2001: Seattle, Wash, "Classification of Idiopathic Interstitial Pneumonias," Pulmonary Pathology Society, Second Biannual Meeting.
26. August 2001: Seattle, Wash, "Panelist for Discussion of Cases of Interstitial Lung Diseases," Pulmonary Pathology Society, Second Biannual Meeting.
27. September 2001: Basel, Switzerland, "Neuroendocrine Tumors of the Lung," Institute of Pathology, Basel University.
28. September 20, 2001: Basel, Switzerland, "Pulmonary Adenocarcinoma and Poorly Differentiated Tumors," Institute of Pathology, Basel University.
29. September 2001: Basel, Switzerland, "Pulmonary Vasculitis," Institute of Pathology, Basel University.
30. September 2001: Basel, Switzerland, "Classification of Idiopathic Interstitial Pneumonias," Institute of Pathology, Basel University.
31. October 2001: Washington, DC, "The New ERS/ATS Classification of Idiopathic Interstitial Pneumonias," Walter Reed Army Medical Center.
32. October 2001: Washington, DC, "Board Review: Pulmonary Pathology for the Pulmonologist. Part 1," Walter Reed Army Medical Center.
33. November 1, 2001: Washington, DC, "Board Review: Pulmonary Pathology for the Pulmonologist. Part 2," Walter Reed Army Medical Center.
34. November 2001: Philadelphia, Pa, "Controversy in Idiopathic Pulmonary Fibrosis: To Biopsy or Not to Biopsy," Chest 2001: American College of Chest Physicians.
35. November 2001: Philadelphia, Pa, "Clinical Pathologic Conference: Interstitial Lung Disease," Chest 2001, American College of Chest Physicians.
36. November 2001: Philadelphia, Pa, "Current Treatment and Evaluation of Mediastinal Tumors: Pathology," Chest 2001, American College of Chest Physicians.
37. December 2001: Washington, DC, "Pathology of Nonspecific Interstitial Pneumonia," American Thoracic Society Workshop on Nonspecific Interstitial Pneumonia, Armed Forces Institute of Pathology.

Dr. Siobhan Nicholson

38. March 2001: Atlanta, Ga, "Gastrin-releasing Peptide Receptor (GRPR) Expression in Non-small Cell Lung Carcinoma (NSCLC)," USCAP meeting.
39. March 2001: Atlanta, Ga, "p1ARF Deletion Is Associated with Poor Prognosis in Non-small Cell Lung Carcinoma (NSCLC)," USCAP meeting.

40. February 2001: Washington, DC, "Interactions of Tumor Suppressors, P53, P73, P14ARF-Something Old, Something New...", AFIP Staff Conference.
41. June 2001: Washington, DC, "Interactions of Tumor Suppressors, P53, P73, P14ARF-in Non-Small Cell Lung Carcinoma," ARP Residents' Competition.

Dr. Matthew Horton

42. March 2001: Bethesda, Md, "Pathology of Pleura and Mediastinum," Thoracic Pathology with Clinical and Radiologic Correlations.
43. April 2001: Bethesda, Md, "Radiologic, Clinical Pathology Correlations," Thoracic Pathology with Clinical and Radiologic Correlations.

Dr. Fumiyuki Kumaki

44. February 2001: Atlanta, Ga, "Expression of Matrix of Metalloproteinases in Invasive Pulmonary Adenocarcinoma with Bronchioloalveolar Component and Atypical Adenomatous Hyperplasia (AAH)," USCAP Meeting, Platform Presentation.

PUBLICATIONS

Journal Articles

1. Rossi S, McAdams HP, Rosado-de-Christenson ML, Franks TJ, Galvin JR. Fibrosing mediastinitis. *Radiographics*. 2001;21:737-757.
2. Matsui K, Beasley MB, Nelson WK, Barnes PM, Bechtel J, Falk R, Ferrans VJ, Moss J, Travis WD. Prognostic significance of pulmonary lymphangioleiomyomatosis histologic score. *Am J Surg Pathol*. 2001;25:479-484.
3. Anikster Y, Lacbawan F, Brantly M, Gochuico BL, Avila NA, Travis WD, Gahl WA. Pulmonary dysfunction in adults with nephropathic cystinosis. *Chest*. 2001;119:394-401.
4. Matsui K, Travis WD, Gonzalez R, Terzian JA, Rosai J, Moss J, Ferrans VJ. Association of lymphangioleiomyomatosis (LAM) with endosarcomatosis in the retroperitoneal lymph nodes: report of two cases. *Int J Surg Pathol*. 2001;9:155-162.
5. Nicholson SA, Okby NT, Khan MA, Welsh JA, McMenamin MG, Travis WD, Jett JR, Tazelaar HD, Trastek V, Pairolero PC, Corn PG, Herman JG, Liotta LA, Caporaso NE, Harris CC. Alterations of p14ARF, p53, and p73 genes involved in the E2F-1-mediated apoptotic pathways in non-small cell lung carcinoma. *Cancer Res*. 2001;61:5636-5643.
6. Thunnissen FB, Ambergen AW, Koss M, Travis WD, O'Leary TJ, Ellis MT. Mitotic counting in surgical pathology: sampling bias, heterogeneity and statistical uncertainty. *Histopathology*. 2001;39:1-8.
7. Flaherty KR, Colby TV, Travis WD, Toews GB, Flint A, Strawderman RL III, Lynch JP III, Martinez FJ. Prognostic value of fibroblastic foci in patients with usual interstitial pneumonia. *Chest*. 2001;120:S76-S77.
8. Travis WD, Galvin JR. Non-neoplastic lymphoid lesions of the lung. *Thorax*. 2001;56:964-971.
9. Komaki R, Chasen MH, Travis WD, Putnam JB, Fossella FV, Byhardt RW, Ro JY. Cancer of the lung: oncologic diagnosis. *Radiographics*. 2001;21:1573-1596.
10. Miura N, Onuki N, Rath A, Virmani A, Nakamoto S, Kishimoto Y, Murawaki Y, Kawasaki H, Hasegawa J, Oshimura M, Travis WD, Gazdar AF. hTR repressor-related gene on human chromosome 10p15.1. *Br J Cancer*. 2001;85:1510-1514.
11. Flaherty KR, Travis WD, Colby TV, Toews GB, Kazerooni EA, Gross BH, Jain A, Strawderman RL, Flint A, Lynch JP, Martinez FJ. Histopathologic variability in usual and nonspecific interstitial pneumonia. *Am J Respir Crit Care Med*. 2001;164:1722-1727.
12. Kumaki F, Matsui K, Kawai T, Ozeki Y, Yu Z-X, Ferrans VJ, Travis WD. Expression of matrix metalloproteinases in invasive pulmonary adenocarcinoma with bronchioloalveolar component and atypical adenomatous hyperplasia. *Am J Pathol*. 2001;159:2125-2135.
13. Lynch JP, Wurfel M, Flaherty K, White E, Martinez FJ, Travis WD, Raghu G. Usual interstitial pneumonia. *Semin Respir Crit Care Med*. 2001;22:357-386.
14. Flaherty KR, Martinez FJ, Travis WD, Lynch JP. Nonspecific interstitial pneumonia (NSIP). *Semin Respir Crit Care Med*. 2001;22:423-434.

Abstracts

1. Fujii T, Franks TJ, Azumi N, Saito K, Travis WD. Cytokeratin immunoreactivity in benign and malignant localized fibrous tumors (LFT) of the pleura. 90th Annual Meeting of

- USCAP; March 3-9 2001; Atlanta, Ga. Poster 180.
2. Fujii T, Bijwaard KE, Taubenberger JK, Lichy JH, Franks TJ, Travis WD. Pulmonary synovial sarcoma: a real-time reverse transcriptase-polymerase chain reaction assay for detection of SYT-SS fusion transcripts in formalin-fixed paraffin-embedded tissue^h 90 Annual Meeting of USCAP; March 3-9, 2001; Atlanta, Ga. Poster 181.
 3. Strollo DC, Rosado-de-Christenson ML, Franks TJ. Bronchioloalveolar carcinoma and adenocarcinoma with radiologic features of cystic change: tumor reclassification using the *Revised World Health Organization Classification of Lung and Pleural Tumors*. Radiological Society of North America, 87 Scientific Assembly and Annual Meeting; November 25-30, 2001; Chicago, Illinois.
 4. Kumaki F, Kawai T, Churg A, Gallateau-Salle FB, Hasleton P, Henderson D, Roggli V, Travis WD. Expression of telomerase reverse transcriptase (TERT) in malignant mesothelioma. *Mod Pathol*. 2001;14:222A.
 5. Kumaki F, Matsui K, Valencia J, Yu Z, Kawai T, Ozeki Y, Ferrans VJ, Travis WD. Expression of matrix metalloproteinases in pulmonary adenocarcinoma showing lepidic growth and atypical adenomatous hyperplasia *Mod Pathol*. 2001;14:222A.
 6. Nicholson SA, Khan MA, Welsch JA, McMenamin MG, Travis WD, Harris CC. Inactivation of p14ARF and p53 are inversely correlated in human cell lines *Mod Pathol*. 2001;14:212A.
 7. Beasley MB, Fanburg-Smith JC, Fujii T, Travis WD: Calretinen staining in synovial sarcoma: a potential pitfall in pleural biopsy interpretation *Mod Pathol*. 2001;14:217A
 8. Fujii T, Franks TJ, Azumi N, Saito K, Travis WD: Cytokeratin immunoreactivity in benign and malignant localized fibrous tumors (LFT) of the pleura *Mod Pathol*. 2001;14:218A.
 9. Fujii T, Bijwaard KE, Taubenberger JK, Lichy JH, Franks TJ, Travis WD. Pulmonary synovial sarcoma: a real-time reverse transcriptase-polymerase chain reaction assay for detection of SYT-SSX fusion transcripts in formalin-fixed paraffin-embedded tissue *Mod Pathol*. 2001;14:219A.
 10. He P, Azumi N, Beasley MB, Brambilla E, Hasleton PS, Travis WD: Significance of p27 expression in pulmonary neuroendocrine tumor *Mod Pathol*. 2001;14:220A.
 11. Nicholson SA, Khan MA, Welsh JA, Travis WD, Bennett W, Battey J, Marrogi A, Jett JR, Tazelaar HD, Trastek V, Pairolero PC, Liotta LA, Caproaso NE, Harris CC. Gastrin-releasing peptide receptor (GRPR) expression in non-small cell lung carcinoma (NSCLC). *Mod Pathol*. 2001;14:224A.
 12. Nicholson SA, Khan MA, Welsh JA, Travis WD, Okby NB, Bennett W, Przygodzski R, Jett JR, Tazelaar HD, Trastek V, Pairolero PC, Liotta LA, Caproaso NE, Harris CC. p1ARF deletion is associated with poor prognosis in non-small cell lung carcinoma (NSCLC). *Mod Pathol*. 2001;14:224A.
 13. Gochuico BR, MackDonald SD, Rosas I, Beasley M, Travis WD, Ren P, Wu HP, Chen CC. Rapid 99mTC-DTPA lung clearance in individuals with UIP is associated with lung PMN accumulation *Am J Respir Crit Care Med*. 2001;163.
 14. Flaherty KR, Colby T, Travis W, Toews G, Flint A, Gay S, Strawderman R, Jain A, Lynch J, Martinez FJ. Differential presence of fibroblastic foci in usual interstitial pneumonia (UIP) patients with or without connective tissue disease *Am J Respir Crit Care Med*. 2001;163.
 15. Flaherty KR, Kazerooni E, Teows G, Colby T, Gross B, Flint A, Lynch JP, Gay S, Martinez FJ. Change in pulmonary function and semiquantitative HRCT scores in patients with UIP and NSIP *Am J Respir Crit Care Med*. 2001;163.
 16. Taveria-DaSilva AM, Hedin CJ, Matsui K, Travis WD, Ferrans VJ, Moss J: Predictors of rate of decline in lung function in patients with lymphangioleiomyomatosis (LAM) *Am J Respir Crit Care Med*. 2001;163.

Book Chapter

Travis WD. Lung. In: Albores-Saavedra J, Henson DE, eds. *Pathology of Incipient Neoplasia*. 3rd ed. New York, NY: Oxford University Press; 2001:295-318.

GROUP 3

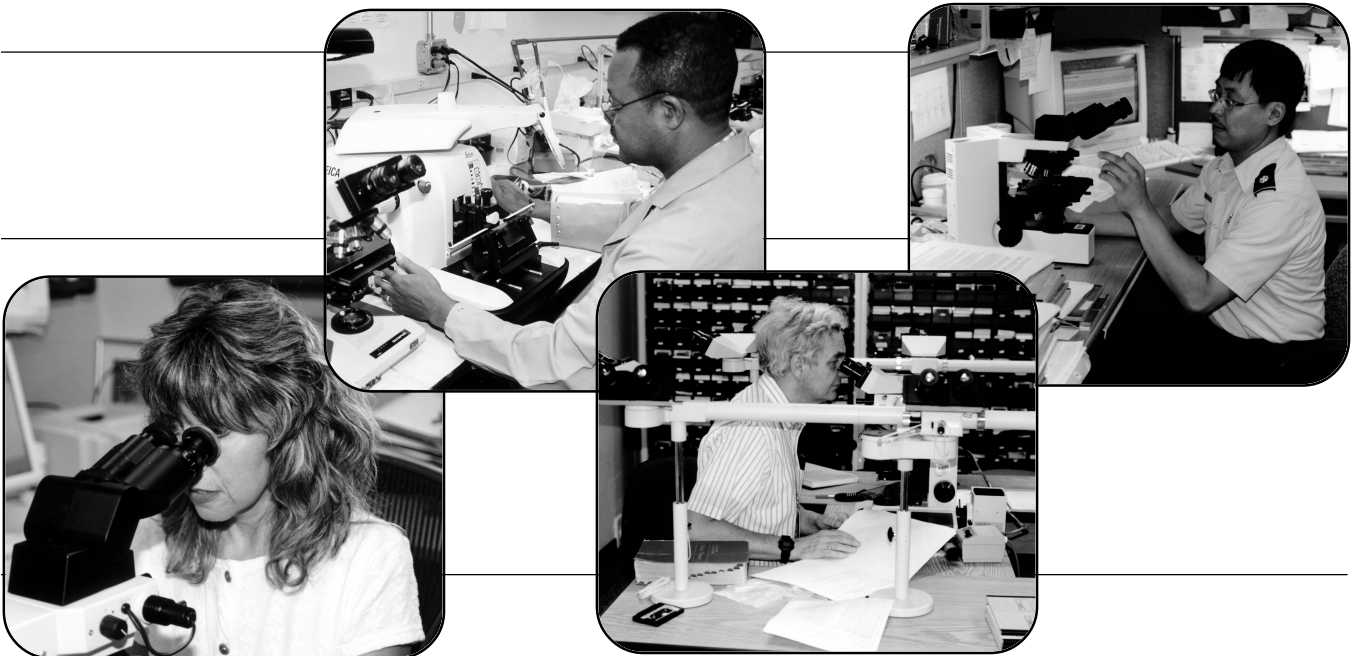
SPECIAL LABORATORY MEDICINE

CELLULAR PATHOLOGY & GENETICS

HEMATOPATHOLOGY

NEUROPATHOLOGY &
OPHTHALMIC PATHOLOGY

SCIENTIFIC LABORATORIES





Timothy J. O'Leary, MD, PhD
Chair
Date of Appointment — 21 January 1987



DEPARTMENT OF CELLULAR PATHOLOGY AND GENETICS

MISSION

The Department of Cellular Pathology and Genetics provides research and innovative technologies that support the readiness of our armed forces and ensure top-quality, cost-effective health care for military personnel, their dependents, and the American people. By integrating interdivisional and interdepartmental research efforts, we are making a substantial contribution to the redefinition of pathology research and practice, while setting directions for research and diagnosis worldwide.

ORGANIZATION

The department is organized into 6 divisions and the Office of the Chair

1. Division of Biophysics – Jeffrey T. Mason, PhD
2. Division of Clinical Genetics – Charles Macri, MD
3. Division of Cytopathology – Indira Wesley, COL MC, USN
4. Division of Molecular Pathology – Jeffery K. Taubenberger, MD, PhD
5. Division of Pediatric Pathology – Eric Suarez, CDR, MC, USN
6. Division of Quantitative Pathology – Robert L. Becker, Jr , Col USAF, MC

STAFF

Administrative:

Danny Urquhart, Research Administrator
Stephanie Hudson, ARP, Administrative Assistant
Myra Washington, Secretary

DIAGNOSTIC CONSULTATION

Military	22,635
Federal	320
Civilian	817
Interdepartmental	1,067
<hr/>	
Total	24,839

In addition to traditional pathologic services, we provided direct patient care services in the Division of Clinical Genetics. Consultations were performed at the National Naval Medical Center in prenatal and pediatric genetics and in maternal-fetal medicine. These consultations were performed either by our clinical geneticist or one of two genetic counselors. To better serve the Institute and our contributors, we further accelerated the establishment of new technologies and services. We expanded the array of molecular diagnostic assays, and

put into use new equipment that has increased case throughput and decreased turnaround time.

The Division of Cytopathology continued to receive the bulk of its operating funding from the Office of the Air Force Surgeon General, and various individual military installations. In addition, support for the sequencing facility was provided in part by the Walter Reed Army Institute of Research. Reimbursements for molecular diagnostic assays were also received from the National Naval Medical Center and the Walter Reed Army Medical Center.

Impact:

To better accomplish this mission, the Department of Cellular Pathology and Genetics is engaged in 5 major developmental efforts that involve all divisions:

1. Genomics/proteomics: The department is undertaking investigations that utilize serial analysis of gene expression (SAGE) to determine the mRNA expression profile of tissues and tumors. We are using the information derived from these studies to develop homogeneous PCR assays that can be used on paraffin-embedded archival tissues. We have also carried out a substantial number of comparative genomic hybridization (CGH) and spectral karyotyping (SKY) experiments, in an effort to identify regions associated with malignant behavior. We are also beginning a collaborative effort with several other entities to integrate research in proteomics and genomics.
2. Magnetic resonance microscopy: We have installed 2 magnetic resonance microscopy systems that will allow the nondestructive imaging of tissues and small animals, with a resolution of a few microns. We have demonstrated high-quality images that rival low-power light microscopy, although in black and white.
3. Telemedicine: The department continues to be the world leader in telecytology. We have published 3 additional studies on this work.
4. Clinical genetics: In collaboration with the National Naval Medical Center, we have established a center for clinical genetics at NNMCC. This is a pilot effort intended to explore the feasibility of various methods of providing clinical and laboratory genetics services to the Department of Defense.
5. Emerging infectious diseases: We continue our work on exploring the mechanisms and effects of pandemic influenza and other emerging infectious diseases, with increased emphasis on response to biothreat organisms

These efforts take place in the context of a department that is committed to excellence in "routine" diagnostic activities that are both extraordinary in quality and extraordinarily cost-effective. The department continues to be a leader in technology assessment. As we develop and implement new diagnostic approaches, we carefully assess the benefit to both the patient and to the armed forces. In this way, we assure that our research efforts do not result only in papers, but also in improved health for our servicemembers, their families, and the American people.

EDUCATION

Presentations and Seminars: Contact hours for lectures and other formal courses are listed in divisional reports.

Trainees

<i>Training category</i> _____	<i>Number trained in 2001</i> _____	<i>Training-days</i>
Pathology residents	6	160
Pathology fellows	6	210
Postdoctoral fellows	2	440
Graduate students	2	440
Students	2	100
TOTAL	18	1,350

RESEARCH

The Department of Cellular Pathology published 39 journal articles, 12 abstracts, 3 book chapters, and 2 conference proceedings papers in 2001 (see divisional reports for references). This work continued to be internationally noticed and acclaimed, and department staff gave

numerous press interviews regarding their work.

Non-AFIP/ARP Research Funds Received:

VA	\$100,000
NIH	\$248,000
Military Agencies	\$144,380
Nonfederal	\$ 86,000
<hr/>	
Total	\$578,380

The department cosponsored with the National Cancer Institute an international workshop on Gastrointestinal Stromal Tumors, with funding from the American Registry of Pathology and the NIH Office of Orphan Diseases.

OTHER ACCOMPLISHMENTS

The department's work relies on collaboration and support from within the Institute and from federal agencies and private institutions, including:

- Office of the Air Force Surgeon General
- Army Medical Research and Development Command
- National Institutes of Health
- Food and Drug Administration
- Walter Reed Army Medical Center
- Centers for Disease Control and Prevention
- Uniformed Services University of the Health Sciences

Offices and Committee Memberships in National and International Societies:

TJ O'Leary:

1. Chair, NCCLS Subcommittee on PCR-based Assays in Molecular Hematology
2. Member, Molecular Genetic Pathology Test Committee (a conjoint committee of the American Board of Pathology and the American Board of Medical Genetics)
3. Member, Genetics Working Group, Centers for Disease Control
4. Member, Clinical Laboratory Improvement Advisory Committee, Department of Health and Human Services
5. Member, Professional Relationships Committee, Association for Molecular Pathology

Editorial Boards:

TJ O'Leary:

1. *Applied Immunohistochemistry and Molecular Morphology*
2. *Pathology Research and Practice*
3. *Human Pathology*

Faculty Appointment:

TJ O'Leary:

Clinical Associate Professor, USUHS

PUBLICATIONS

Journal Articles

1. Li SQ, O'Leary TJ, Buckner SB, Przygodzki RM, Sobin LH, Erozan YS, Rosenthal DL. Fine needle aspiration of gastrointestinal stromal tumors. *Acta Cytol.* 2001;45:9-17.
2. O'Leary TJ. Standardization in immunohistochemistry. *Appl Immunohistochem Mol Morphol.* 2001;9:3-8.
3. Cunningham RE, Abbondanzo SL, Chu W-S, Emory TS, Sobin LH, O'Leary TJ. Apoptosis, bcl-2 expression, and p53 expression in gastrointestinal stromal/smooth muscle tumors. *Appl Immunohistochem Mol Morphol.* 2001;9:19-23.
4. Sheng Z-M, Przygodzki RM, O'Leary TJ. Rapid screening for *KIT* mutations by capillary electrophoresis [letter]. *Clin Chem.* 2001;47:1325-1326.
5. Berman J, O'Leary TJ. Gastrointestinal stromal tumor workshop. *Hum Pathol.* 2001;32:578-582.

6. Przygodzki RM, Koss MN, O'Leary TJ. Pleomorphic (giant and/or spindle cell) carcinoma of lung shows a high percentage of variant CYP1A12. *Mol Diagn.* 2001;6:109-115.
7. Thunnissen E, Ambergen AW, Koss M, Travis WD, O'Leary TJ, Ellis IO. Mitotic counting in surgical pathology: sampling bias, heterogeneity and statistical uncertainty. *Histopathology.* 2001;39:1-8.
8. Alli PM, Ollayos CW, Thompson LD, Kapadia I, Butler D, Williams BH, Rosenthal DL, O'Leary TJ. Telecytology: intraobserver and interobserver reproducibility in the diagnosis of cervical-vaginal smears. *Hum Pathol.* 2001;32:1318-1322.
9. Allen EA, Ollayos CW, Tellado MV, Butler D, Buckner SB, Williams BH, O'Leary TJ. Characteristics of a telecytology consultation service. *Hum Pathol.* 2001;32:1323-1326.
10. Williams BH, Mullick FG, Butler DR, Herring RF, O'Leary TJ. Clinical evaluation of an international static image-based telepathology service. *Hum Pathol.* 2001;32:1309-1317.
11. Przygodzki RM, Goodman ZD, Rabin L, Centeno JA, Liu Y, Huffs AE, O'Leary TJ. Hemochromatosis (*HFE*) gene sequence analysis of formalin-fixed, paraffin-embedded liver biopsy specimens. *Mol Diagn.* 2001;6:227-232.

Abstracts

1. Alli PM, Siddiqui MT, O'Leary TJ, Ali SZ. Spectrum of cytomorphologic changes in anaplastic thyroid carcinoma (ATC) on fine needle aspiration (FNA). United States and Canadian Academy of Pathology; 2001; Atlanta, Ga. *Lab Invest.* 2001;81:49A.
2. O'Leary TJ. The impact of FDA regulations on the clinical laboratory. American Association for Clinical Chemistry; Chicago, Ill. *Clin Chem.* 2001;47:S28.



Jeffrey T. Mason, PhD
Chief
Date of Appointment—1 January 1993



DIVISION OF BIOPHYSICS

MISSION

The Division of Biophysics increases knowledge and develops methods beneficial to pathology and military readiness through the application of the principles and instrumentation of biophysical chemistry.

ORGANIZATION

The division is organized into:

1. Biophysics Laboratory
2. Magnetic Resonance Facility

STAFF

Scientific:

Jeffrey T. Mason, PhD, Chief
Kimberlee Potter, PhD, Scientific Director of Magnetic Resonance Facility, ARP
Robert E. Cunningham, MS, Research Biologist

Administrative:

(A) HM1 Frank A. Jones, Administrative Assistant

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	0
Army	
Navy	
Air Force	
Federal	0
VA	
USPHS	
OFA	
Civilian	0
Interdepartmental	22
<hr/> Total	<hr/> 22

The above cases required the following types of procedures and analyses:

- In situ hybridization for JC virus cases: 15
- Magnetic resonance microscopic imaging: 7

Impact:

The AFIP Magnetic Resonance Facility began operation in 2001. This facility serves to provide NMR spectroscopic and magnetic resonance microscopic imaging services to the AFIP and other military and civilian collaborators. Magnetic resonance microscopy techniques in cardiovascular, pediatric, forensic, and tissue culture imaging were developed in 2001.

Deployments:

August 1-3, 2001, Ft Detrick, Md, unit prevention leader training, FA Jones.

Quality Assurance:

October 10-12, 2001, AFIP, Rockville, Md, water silicate testing for CAP inspection, JT Mason.

EDUCATION

Presentations and Seminars: Two lectures at conferences were presented.

Courses: One non-AFIP course was presented. August 3, 2001, Foundation for Advanced Education in the Sciences, NIH, Bethesda, Md, Techniques in Flow Cytometry, R Cunningham.

Trainees:

1. Research fellow from Cardiac Pathology, AFIP, in the application of quantitative NMR microscopy to atherosclerotic plaque characterization, 35 trainee-days.
2. Visiting research scientist from OAFME, AFIP, in the application of NMR microscopy in forensic medicine, 25 trainee-days.

RESEARCH

Publications: Four journal articles and 1 abstract were published in 2001, as listed at the end of this report.

Projects:

1. The characterization of arterial morphology and atherosclerotic plaques by NMR microscopy.
2. The application of NMR microscopy to studies of pattern injury in forensic medicine.
3. Visualization of ocular morphology and retinal hemorrhage by NMR microscopy.
4. Development and evaluation of tissue-engineered bone constructs by NMR microscopy.
5. Study of cartilage and bone development in 3-dimensional tissue culture models.
6. Retrospective studies of apoptosis and gene expression in gastrointestinal stromal/smooth muscle tumors using tissue microarrays.
7. Study of the chemistry of formaldehyde fixation and improved techniques for recovery of protein antigenicity and RNA from formalin-fixed tissue.

8. Development of methods for depositing whole, intact nuclei into high-density arrays for high-throughput genetic screening of archival tissue.
9. Development of ultra-high sensitivity assays for biological warfare toxins, such as Botulinum and tetanus toxins.

Research Funds Received:

1. Nuclear microarrays for quantitative high-throughput screening of tissue specimens. ARP, \$15,000.
2. Formalin fixation and recovery of RNA and protein. NIH, \$100,000.
3. Magnetic resonance imaging of the vulnerable plaque. CIMIT, \$28,000.
4. A field-deployable ultra-sensitive assay system for biological toxins using immunoliposome-DNA amplification hybrids. USAMRMC, \$126,880.

OTHER ACCOMPLISHMENTS

Collaborators:

Civilian:

1. Dr. Michael M. Batenjany, Biomira USA. Interaction of interleukin-2 with bilayer membranes.
2. Dr. Newell Washburn, NIST. Development and evaluation of tissue-engineered bone constructs.
3. Dr. Ching-hsien Huang, University of Virginia. Raman spectroscopic characterization of polyunsaturated phospholipids.

Interdepartmental:

1. Dr. Breno Pessanha, Department of Cardiovascular Pathology. The application of quantitative NMR microscopy to atherosclerotic plaque characterization.
2. Dr. Michael Thali, OAFME. The application of NMR microscopy to pattern injury and forensic medicine.

Honors:

Commander's award for civilian service, Jeffrey T. Mason

Committees:

Manuscripts Reviewed: Members of the division reviewed 3 articles for the following professional journals:

1. *Biophysical Journal*, 1.
2. *Biochimica et Biophysica Acta*, 2.

New Missions:

Development of ultra-high sensitivity assays for biological warfare agents.

PRESENTATIONS

1. September 2001: Bethesda, Md, Sixth International Conference on Magnetic Resonance Microscopy, "Bone formation studied by proton NMR microscopy," K Potter.
2. April 2001: London, England, International Society of Magnetic Resonance in Medicine, "Endothelial bone formation studied by proton NMR microscopy," K Potter.

PUBLICATIONS

Journal Articles

1. Cunningham R, Abbondanzo SL, Chu W-S, Emory TS, Sobin LH, O'Leary TJ. Apoptosis, *bcl-2* expression, and *p53* expression in gastrointestinal stromal/smooth muscle tumors. *Appl Immunohistochem Mol Morphol*. 2001;9:19-23.
2. Boni LT, Batenjany MM, Neville ME, Guo Y, Xu L, Wu F, Mason JT, Robb RJ, Popescu MC. Interleukin-2-induced small unilamellar vesicle coalescence. *Biochim Biophys Acta*. 2001;1514:127-138.
3. Potter K, Landis WJ, Spencer RGS. Histomorphometry of the embryonic avian growth plate by proton nuclear magnetic resonance microscopy. *J Bone Miner Res*. 2001;16:1092-1100.
4. Potter K, Kidder LH, Levin IW, Lewis EN, Spencer RG. Imaging of collagen and proteoglycan in cartilage sections using Fourier transform infrared spectral imaging.

Arthritis Rheum. 2001;44:846-855.

Abstract

Potter K, Leapman RD, Bassar PJ, Landis WJ. Endothelial bone formation studied by proton NMR microscopy. *Proc Intl Soc Mag Reson Med.* 2001;9:2126.



Indira Wesley, COL, MC, USA
Chief
Date of Appointment—October 2001



DIVISION OF CYTOPATHOLOGY

MISSION

The Division of Cytopathology provides consultation, primary diagnosis, education, and research in diagnostic cytopathology.

ORGANIZATION

1. Consultation Service
2. Armed Forces Cytocenter

STAFF

Medical:

- (A) Indira Wesley, COL, MC, USA, Division Chief
- (D) Curtis W. Ollayos, CDR, MC, USN, Division Chief
- Sally-Beth Buckner, SCT(ASCP), IAC, Cytotechnologist
- Izzat Ali, CT(ASCP), IAC, Cytotechnologist
- Dominador Devera, CT(ASCP), Cytotechnologist
- (A) Yiquin Feng, CT(ASCP), Cytotechnologist

Administrative:

- Nawera Haque, Accessioning Clerk
- Xin-Yan Zhao, Cytopreparatory Technician and Accessioning Clerk

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Consultation Service	1,198
Interdepartmental	326
Other federal	320
Civilian	222
Military	
Armed Forces Cytocenter	21,922
Total	23,120

Approximately 25% of the Consultation Service cases required immunohistochemical staining. The Air Force Cytocenter caseload of 21, 922 contributes directly to military readiness in that a large proportion of these smears are from active-duty women.

Deployments:

National Naval Medical Center, Anatomic Pathology Signout, CW Ollayos (24 days)

Quality Assurance:

1. The division participated in 8 proficiency testing exercises (4 GYN, 4 non-GYN)
2. The division completed the CAP inspection with no deficiencies.

EDUCATION

Presentations and Seminars: Division staff made 6 formal presentations in 2001, totaling 280 man-hours. Two poster presentations were exhibited at the 2001 Annual Meeting of the American Society of Cytopathology. Dates and titles of presentations are listed at the end of this report. The short course, "The Pap Smear: Serving Patients and Avoiding Liability in a Low-Cost and Litigious World," was presented for the third time, for a total of 450 man-hours.

Trainees: The division provided training for the following individuals in 2001:

1. Beth Allen, MD, Fellow
2. Angelique Wolfe-Levi, MD, Fellow
3. Laila Dahmouch, MD, Fellow
4. Marie Fischette, MD, Resident

RESEARCH

Publications: Division staff published 3 journal articles in 2001. Complete information is listed at the end of the report.

Projects: The division maintained 4 research projects in 2001:

1. Clinical utility of telomerase in common bile duct brushings – EA Allen
2. Interobserver and intraobserver concordance of telecytologic diagnoses of thyroid aspirations – EA Allen
3. Clinical utility of telomerase assays in exfoliative cytology – PM Alli
4. Telomerase reverse transcriptase mRNA expression in metastatic adenocarcinoma of body cavity fluids – SQ Li

OTHER ACCOMPLISHMENTS

Honors: Invited participant of the Bethesda 2001 Workshop – SB Buckner.

Continuing Education: Division staff participated in 144 man-hours of proficiency testing exercises. Individual cytotechnologists attended continuing education events.

PRESENTATIONS

1. March 2001: Bethesda, Md, Metropolitan Washington Association of Cytology, "The importance of continuing education – What we would have missed without it," SB Buckner.
2. March 2001: Williamsburg, Va, Virginia Society of Cytology, "The importance of continuing education – What we would have missed without it," SB Buckner.
3. April 2001: Scottsdale, Ariz, The American Society of Cytopathology Interim Meeting, "Respiratory cytology," SB Buckner.
4. May 2001: Washington, DC, AFIP Review in Anatomic Pathology Course, "The Bethesda System," SB Buckner.
5. June 2001: Bethesda, Md, National Institutes of Health, "Distribution of HPV-related disease in an active-duty population," CW Ollayos.
6. June 2001: Washington, DC, National Museum of Health and Medicine, "Distribution of HPV-related disease in an active duty population," CW Ollayos.
7. November 2001: Kansas City, Mo, The American Society of Cytopathology Annual Meeting, "Telecytologic diagnosis of thyroid fine needle aspiration (FNA) biopsies: a study of interobserver and intraobserver concordance" (poster presentation), B Allen.

8. November 2001: Kansas City, Mo, The American Society of Cytopathology Annual Meeting, "Telomerase reverse transcriptase (hTERT) mRNA expression in metastatic adenocarcinoma of body cavity fluids" (poster presentation), S Li.

PUBLICATIONS

Journal Articles

1. Li SQ, O'Leary TJ, Buckner SB, Przygodzki RM, Sobin LH, Erozan YS, Rosenthal DL. Fine needle aspiration of gastrointestinal stromal tumors. *Acta Cytol.* 2001; 45:9-17.

2. Alli PM, Ollayos CW, Thompson LD, Kapadia I, Butler D, Williams BH, Rosenthal DL, O'Leary TJ. Telecytology: intraobserver and interobserver reproducibility in the diagnosis of cervical-vaginal smears. *Hum Pathol.* 2001;32:1318-1322.

3. Allen EA, Ollayos CW, Tellado MV, Butler D, Buckner SB, Williams BH, O'Leary TJ. Characteristics of a telecytology consultation service. *Hum Pathol.* 2001;32:1323-1326.



Charles J. Macri, CAPT, MC, USN
Chief
Date of Appointment—1 May 2001



DIVISION OF CLINICAL GENETICS

MISSION

The Division of Clinical Genetics plans to develop a Clinical Genetics Service in the National Capital area; identifies areas of need for genetic services within the DoD; and utilizes technology to improve return on investment in the provision of genetic services.

STAFF

Medical:
Charles J. Macri, MD, Medical Geneticist
Jamie Durkovic, MS, Genetic Counselor
Shannon Wright, MS, Genetic Counselor

DIAGNOSTIC CONSULTATION

Cases _____	Completed
Genetic Counseling - extended	444



Jeffery K. Taubenberger, MD, PhD
Chief
Date of Appointment—1 January 1994



DIVISION OF MOLECULAR PATHOLOGY

MISSION

The Division of Molecular Pathology provides consultation, research, and education in molecular biology and molecular pathology. We develop new techniques for consultative diagnostic molecular pathology and molecular medicine, and explore new areas of molecular biology to determine which may be useful for current or future development at the Institute. We collaborate with other CAP departments by performing research using molecular techniques.

ORGANIZATION

The division is organized into the following laboratories:

Molecular Diagnostics Laboratory – Jack H. Lichy, MD, PhD, Director

DNA Core Sequencing Laboratory – Alan Hubbs, PhD, Director

Research Laboratory – Jeffery K. Taubenberger, MD, PhD, Chief

STAFF

Jeffery K. Taubenberger, MD, PhD, Staff Pathologist and Division Chief
Karen Bijwaard, MS, Medical Technologist
Jessica Dement, BS, ARP, Medical Technologist
Thomas G. Fanning, PhD, Principal Investigator
Thomas Janczewski, BS, ARP, Research Biologist
(A) Daisy Johnson, SGT, USA, Medical Technologist
Amy E. Krafft, PhD, MT (ASCP), Medical Technologist
Qi Liang, PhD, ARP, Research Biologist
Jack H. Lichy, MD, PhD, Staff Pathologist and Director, Molecular Diagnostics Laboratory
Andrew N. Loudon, BS, ARP, Graduate Student
(D) Mourad Majidi, PhD, ARP, Research Biologist
Sherman McCall, LTC, MC, USA, Staff Pathologist
(A) Elizabeth Onuoha, BS, ARP, DNA Sequencing Technologist
(A) Pin-Yu Perera, PhD, ARP, Research Biologist
Jean Przybocki, BS, Medical Technologist
Ronald Przygodzki, MD ARP, Staff Pathologist
Ann H. Reid, MA, Research Biologist
(D) Ryan Satcher, BS, ARP, DNA Sequencing Technologist
Zong-Mei Sheng, MD, PhD, ARP, Research Biologist
Mark M. Tsai, MS, Research Biologist
(A) Ruxie Wang, PhD, ARP, Research Biologist
(D) Feng Qi Zhao, PhD, ARP, Research Biologist

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	281
Federal	7
Civilian	50
Interdepartmental	657
Total	995

The Molecular Diagnostics Laboratory received 995 cases in consultation in 2001. All 995 cases required molecular testing. These cases were received from 19 CAP departments and from direct consults from other institutions, and, on average, 2.5 different tests were requested per case. This resulted in 2,560 separate molecular pathology assays completed in 2001.

The following tests were offered for clinical or research diagnosis on submitted fixed tissue:

1. Hematopathology: Immunoglobulin heavy chain rearrangement; T-cell receptor beta gene rearrangement; T-cell receptor gamma gene rearrangement; t(14;18) translocation, major and minor breakpoints; t(9;22) translocation, ALL and CML types; t(11;14) translocation; t(2;5) translocation; and quantitative PRAD1 overexpression.
2. Solid tumors: t(11;22), t(X;18), t(1;13), and t(2;13) translocations.
3. Infectious diseases: *Coxiella burnetti*, Epstein-Barr virus, herpes simplex virus 1 and 2, human herpes virus 8, human papillomavirus, animal papillomaviruses, enterovirus, hepatitis C virus, morbilliviruses (human measles virus, canine distemper virus, dolphin morbillivirus, porpoise morbillivirus), *Pneumocystis carinii*, *Toxoplasma gondii*, varicella zoster virus, enterovirus.
4. Genetic tests: Hemochromatosis, factor V (Leiden), prothrombin mutation assays.

Dr. Lichy and Dr. Taubenberger participated in signout of molecular genetic and surgical pathology cases.

Quality Assurance: The laboratory received 13 samples in CAP sample exchange programs in molecular oncology, infectious diseases, and genetics, and 4 cases in a sample exchange with the Johns Hopkins Medical Center Molecular Diagnostics Laboratory, for a total of 17 QA samples in 2001.

EDUCATION

Presentations and Seminars: Division staff gave 54 seminars and presentations in 2001, for a total of 2,638 training man-hours. This total includes the Molecular Pathology Division Journal Club, which met 32 times in 2001, for a total of 640 training man-hours.

Courses: Division staff participated in 2 courses in 2001: 1 non-AFIP course and 1 AFIP course.

Trainees: Division staff trained 9 individuals, for a total of 440 training days. Trainees by category are listed below:

<i>Trainee category</i> _____	<i>No. trained in 2001</i> _____	<i>Training days</i>
Pathology residents	6	120
Graduate students	1	220
Students	2	100
<hr/>		
Total:	9	440

Pathology residents from the combined Walter Reed/Bethesda residency program and from the Department of Pathology at Howard University continued to receive 1-month rotations in molecular genetic pathology. Andrew Loudon successfully defended his PhD dissertation from the Howard University Department of Genetics, under the mentorship of Dr. Lichy. Dr. Lichy and Dr. Fanning each mentored a summer student on a research project.

Certification: Drs. Lichy, O'Leary, Przygodzki, and Taubenberger received board certification in molecular genetic pathology from the American Board of Pathology and the American Board of Medical Genetics.

RESEARCH

Publications: Division staff published 28 refereed journal articles, 3 book chapters, and 8 abstracts in 2001. Complete references are listed at the end of this report.

Projects: Division staff were principal investigators on 19 AFIP research protocols, open as of December 31, 2001:

1. Analysis of Early 20th Century Avian Viruses. *Principal Investigator (PI):* Dr. Thomas G. Fanning.
2. Analysis of Squamous Cell and Adenocarcinomatous Epithelium within Pleomorphic Carcinoma of the Lung. *PI:* Dr Ronald Przygodzki.
3. Comparison of Three ST5 Gene Products in Tumors. *PI:* Dr. Qi Liang.
4. Development and Validation of a Clinical Assay for t11;22)(q24;q12) in Ewing's Sarcomas

- and Peripheral Primitive Neuroectodermal Tumors. *PI*: Ms. Karen Bijwaard.
5. Diagnosis of Measles Virus Infection in Archival Tissues by RT-PCR. *PI*: Dr. Jeffery K. Taubenberger.
 6. Diagnosis of Variola Infection in Archival Tissues by PCR. *PI*: Dr. Jeffery K. Taubenberger.
 7. Experimental Measurements of Blast Trauma. *PI*: LTC Sherman McCall.
 8. Glandular Neoplasia of Lung: A Clinicopathologic Study of 100 Cases. *PI*: Dr. Ronald Przygodzki.
 9. HFE Analysis of Histologically Suspect Hemochromatosis Cases. *PI*: Dr. Ronald Przygodzki.
 10. Human ST5 Gene in Signal Transduction and Carcinogenesis. *PI*: Dr. Jack H. Lichy.
 11. Identification of Influenza Strains by Molecular Genetic Techniques. *PI*: Dr. Jeffery K. Taubenberger.
 12. Identification of the Source of the 1918 Influenza A Strain by RT-PCR. *PI*: Dr. Jeffery K. Taubenberger.
 13. Monitoring the Response to Cancer Vaccines. *PI*: Dr. Jack H. Lichy.
 14. Role of EBV in the Etiology of Breast Cancer. *PI*: LTC Sherman McCall.
 15. Role of the Novel Antigen, Lip-6, in Hematopoiesis. *PI*: Dr. Jeffery K. Taubenberger.
 16. Serial Analysis of Gene Expression (SAGE) in Developing B Lymphocyte Precursors. *PI*: Dr. Jeffery K. Taubenberger.
 17. Serial Analysis of Gene Expression (SAGE). *PI*: Dr. Zong-Mei Sheng.
 18. Serial Analysis of Gene Expression. *PI*: Dr. Jeffery K. Taubenberger.
 19. Tumor Susceptibility Markers and their Consequent Mutational Alterations in Hepatic Vascular Neoplasia. *PI*: Dr. Ronald Przygodzki.

Non-AFIP Research Funds Received for 2001:

1. "Comparison of three ST5 gene products in tumors" — \$10,000, ARP, Dr. Qi Liang.
2. "The human ST5 gene in signal transduction and cancer" — \$125,000, NIH, JH Lichy.
3. "Minority Graduate Assistant Program" — \$23,000, NIH, JH Lichy.
4. "Experimental measurements of blast trauma" — \$3,000, Woods Hole Oceanographic Institute, S McCall.
5. "BDNF expression in protective doses of excitatory neurotoxins" — \$5,000, USUHS, S McCall.
6. "Genetic characterization of the 1918 'Spanish' influenza virus" — \$100,000, Department of Veterans Affairs, JK Taubenberger.
7. "Serial analysis of gene expression (SAGE) in developing B lymphocyte precursors" — \$10,000, ARP, JK Taubenberger
8. "Surveillance for influenza and adenoviruses from fixed nasal swabs" — \$7,500, GEIS/WRAIR, JK Taubenberger.

OTHER ACCOMPLISHMENTS

DNA Core Sequencing Laboratory: In 2001, Dr. Alan Hubbs, Ryan Satcher, and Elizabeth Onuoha generated DNA sequences from 19,863 samples. A breakdown of these cases by submitting AFIP department is given below:

Department	No. of Samples
Facility Optimization	589
Department of Cellular Pathology, Molecular Pathology Division	1,615
Department of Cellular Pathology, Molecular Pathology Division, Genomics Initiative	13,974
Department of Environmental and Toxicologic, Biochemistry Division	108
Department of Soft Tissue Pathology	2,738
Department of Infectious and Parasitic Diseases Pathology	85
Department of Cardiovascular Pathology	605
WRAIR Department of Cellular Injury	149
Total	19,863

This represents more than 50% growth over 2000. This growth reflects marginally increased sample submission from outside departments and a marked increase in samples processed as part of the genomics initiative (SAGE). There was a 1-month period in which no sequences were processed due to the departmental move. Based on the current level of interest, we expect continued growth from within the department and the institute, but a decrease in the number of samples processed under the genomics initiative. In last year's report we anticipated "sequencing between 18,000 and 28,000 samples in the year 2001." Those estimates were correct. In the year 2002, we anticipate approximately the same level of sequencing interest as for 2001, roughly 20,000 sequences.

Collaborators:

Military/Federal:

1. Tony Beugelsdijk, PhD, Los Alamos National Laboratory, Los Alamos, NM.
2. Nancy Cox, PhD, Centers for Disease Control and Prevention, Atlanta, Ga.
3. James Dean, PhD, Smithsonian Institution, Museum of Natural History, Washington, DC.
4. Joseph Esposito, PhD, Centers for Disease Control and Prevention, Atlanta, Ga.
5. David Gillespie, MD, Department of Cardiovascular Surgery, Walter Reed Army Medical Center, Washington, DC.
6. J. Silvio Gutkind, PhD, National Institutes of Health, Bethesda, Md.
7. Kevin Holmes, PhD, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Md.
8. Peter Jahrling, PhD, United States Army Medical Research Institute for Infectious Diseases, Ft Detrick, Frederick, Md.
9. Ann Marini, MD, PhD, Department of Neurology, USUHS, Bethesda, Md.
10. Constance T. Noguchi, PhD, Laboratory of Chemical Biology, National Institutes of Health, Bethesda, Md.
11. George Peoples, MD, Department of Surgery, Walter Reed Army Medical Center, Washington, DC.
12. Steve Rick, PhD, NCI, Frederick, Md.
13. David Swayne, DVM, PhD, US Department of Agriculture, Athens, Ga.
14. Sherif Zaki, MD, Centers for Disease Control and Prevention, Atlanta, Ga.

Civilian:

1. Patty Alli, MD, Department of Pathology, Johns Hopkins University, Baltimore, Md.
2. Alfredo Esparza, MD, Department of Pathology, Rhode Island Hospital, Providence, RI.
3. Sydney D. Finkelstein, MD, Department of Pathology, University of Pittsburgh Medical Center, Pittsburgh, Pa.
4. David Izon, PhD, University of Pennsylvania, Philadelphia, Pa.
5. Darlene Ketten, PhD, Woods Hole Oceanographic Institute, Woods Hole, Mass.
6. Kenneth W. Kinzler, MD, Johns Hopkins Oncology Center, Molecular Genetics Laboratory, Baltimore, Md.
7. Michael N. Koss, MD, Department of Pathology, University of Southern California, Los Angeles, Calif.
8. Scott Layne, MD, University of California at Los Angeles, Los Angeles, Calif.
9. Sherry Li, MD, Department of pathology, Columbia University College of Physicians and Surgeons, New York, NY.
10. Paul McGovern, MD, University of Pennsylvania, Philadelphia, Pa.
11. Peter Palese, PhD, Department of Microbiology, Mt Sinai School of Medicine, New York, NY.
12. Susan Ropp, PhD, South Dakota State University, Brookings, SD.
13. Adolfo Garcia-Sastre, PhD, Department of Microbiology, Mt Sinai School of Medicine, New York, NY.
14. Xio Shu, PhD, University of South Carolina Medical School.
15. Don B. Singer, MD, Department of Pathology, Women's and Infant's Hospital, Brown University, Providence, RI.

16. Richard Slemons, DVM, PhD, Department of Pathology, Ohio State University, School of Veterinary Medicine, Columbus, Ohio.
17. Cheng-Wang Daniel Wu, MD, Department of Pathology, New York University, New York, NY.

International:

1. Gilda Alves, PhD, National Cancer Institute, Rio De Janeiro, Brazil.
2. Ian Brown, PhD, Weybridge Veterinary Laboratories Agency–Weybridge, Addlestone, United Kingdom.
3. Tomayoshi Hayashi, MD, PhD, Department of Pathology, Nagasaki University Hospital, Nagasaki, Japan.
4. Stephan Krus, MD, PhD, Department of Pathology, Warsaw Medical Academy, Warsaw, Poland
5. John Oxford, PhD, London Hospital, London, United Kingdom.
6. Roman Pykalo, MD, PhD, Department of Pathology, Warsaw Medical Academy, Warsaw, Poland.

Other AFIP Departments:

1. Department of Cardiovascular Pathology: research on role of infectious agents in atherosclerotic plaques and cardiomyopathies.
2. Department of Hematologic and Lymphatic Pathology: molecular genetic changes in lymphomas.
3. Department of Hepatic and Gastrointestinal Pathology, Division of Hepatic Pathology: Ras in vascular liver tumors, analysis of gene rearrangement status in inflammatory liver disease.
4. Department of Otolaryngic and Endocrine Pathology: molecular changes in pancreatic tumors, and thyroid lymphomas.
5. Department of Pulmonary and Mediastinal Pathology: molecular genetic changes in lung tumors.
6. Department of Soft Tissue Pathology: *KIT* mutations in gastrointestinal tumors, and evaluation of t(X;18) translocations in synovial sarcomas.
7. Department of Veterinary Pathology: molecular characterization of marine mammal morbilliviruses and papillomaviruses.

Honors:

1. Ms. Bijwaard received the Commander's Award for Civil Service.
2. LTC McCall was elected to Sigma Xi, scientific honor society.
3. Dr. Taubenberg received the Public Health Recognition Award from the Virginia Public Health Association at their annual meeting in 2001.
4. Dr. Taubenberg was selected by the National Academy of Sciences to serve as a member of the Biological Panel, Committee on Science and Technology for Countering Terrorism.

Committees:

1. ARP Grants Committee – Dr. Fanning.
2. Institutional Review Board – Ms. Reid
3. Safety Committee – Dr. Sheng

Professional Services:

1. Microbiology Chair, Northern Virginia Science and Engineering Regional Fair, March 17, 2001 – Dr. Krafft.
2. Microbiology Team Leader, Yorktown High School Science Fair, Arlington, Va, February 10, 2001 – Dr. Krafft
3. Member, NIH Special Study Section for review of applications for Minority Predoctoral Fellowship Program – Dr. Lichy.
4. Outside Examiner, Department of Genetics and Human Genetics, Doctorate Dissertation Committee, Howard University, Washington, DC – Dr. Przygodzki.
5. Consulting Pathologist, Laboratory of Pathology, National Cancer Institute, NIH – Dr. Taubenberg.

Manuscripts Reviewed:

1. *American Journal of Pathology*: 4
2. *Cancer*: 3
3. *Cancer Research*: 2
4. *Biotechniques*: 1
5. *Journal of Virology*: 1
6. *New England Journal of Medicine*: 1
7. *Oncogene*:
8. *Science*: 2
9. *Virology*: 2
10. *Clinical Chemistry*: 1
11. *Journal of Molecular Diagnostics*: 2
12. *Molecular Diagnosis*: 1
13. *Environmental and Molecular Mutagenesis*: 1

Offices and Committee Memberships in National and International Societies:

1. Training and Education Committee, Association of Molecular Pathology – Dr. Lichy.
2. Gene Rearrangement Sample Exchange Organizational Committee, Association for Molecular Pathology – Karen Bijwaard.

Faculty appointments:

1. Howard University Medical School, Washington, DC, Departments of Pathology and Genetics, Adjunct Faculty Appointments; Graduate Advisor (1 PhD student) – Dr. Lichy.
2. Howard University Medical School, Washington, DC, Departments of Pathology and Genetics, Adjunct Faculty Appointment – Dr. Taubenberger.
3. Virginia Commonwealth University, Medical College of Virginia, Richmond, Va, Department of Anatomy, Adjunct Faculty Appointment – Dr. Taubenberger.
4. National Cancer Institute, Bethesda, Md, Laboratory of Pathology, Consultant – Dr. Taubenberger.

Public Affairs Reports:

Research on the 1918 influenza and on influenza surveillance continued to generate national and international press coverage. Media highlights are listed below:

Scientific and Medical Press:

1. *Proceedings of the National Academy of Sciences*: “H1N1-influenza as Lazarus: genomic resurrection from the tomb of an unknown,” Commentary by Joshua Lederberg, February 27, 2001;98(5):2115–2116.
2. *Navy Medicine*: “Philadelphia, nurses, and the Spanish influenza pandemic of 1918,” by James F. Armstrong, March 1, 2001.
3. *Science*: “Reconstructing influenza pathogenicity,” Editor’s Choice, March 16, 2001;291:2051.
4. *Science*: “The 1918 pandemic: killer flu with a human-pig pedigree?” by John Pickrell, May 11, 2001; 292:1041.
5. *ASM News*: “Factors behind virulence of 1918 influenza remain mysterious,” by Christine Stencel, May 2001;67(5):243-244.
6. *ASM News*: “Virulence of 1918 Pandemic Influenza Virus,” by Debi P. Nayak, August 2001;67(8):386-387.
7. *Science*: “A molecular whodunit,” perspective by Robert G. Webster, September 7, 2001; 293:1773-1775.
8. *Science*: “The origin and control of pandemic influenza,” perspective by Graeme Laver and Elspeth Garman, September 7, 2001;293:1776-1777.
9. *Trends in Microbiology*: “New clues in old flu mystery,” by Alexandra Venter, October 2001;9(10):470.
10. *Trends in Molecular Medicine*: “Viral virulence,” by Jonathan Weitzman, November 2001;7(11):490-491.

11. *Nature*: "The flu HQ," news feature by Alison Abbott, November 1, 2001;414:10-11.
12. *Science News*: "Newfound flu protein may kill immune cells," December 15, 2001; 160(24):375.

Newspapers:

1. *The Washington Post*: "On the trail of the 1918 influenza epidemic," by David Brown, February 27, 2001.
2. *Atlanta Journal Constitution*: "Mice provide clues to 1918 killer flu: scientists attempt to crack virus code," by MAJ McKenna, February 27, 2001.
3. *The Milwaukee Journal Sentinel*: "Scientists falter in bid to decipher deadly 1918 virus," March 4, 2001.
4. *The New York Times*: "Gain in hunt for how a flu turns lethal," by Gina Kolata, September 7, 2001.
5. *The Washington Post*: "Researchers claim clue to deadly 1918 flu," by David Brown, September 7, 2001.
6. *The San Francisco Chronicle*: "Genetic study links 1918, '97 flu outbreaks: clues indicate virus leaped from animals," by Sabin Russell, September 7, 2001.
7. *The Richmond Times-Dispatch*: "Scientists: stockpile drugs: public needs protection against flu pandemic," by AJ Hostetler, September 7, 2001.
8. *Newsday*: "Unraveling mysteries of flu's dangers," by Laurie Garrett, September 7, 2001.
9. *Detroit Free Press*: "Devastating flu of 1918 may be linked to a pig," September 7, 2001.
10. *The Charleston Gazette*: "1918 flu epidemic has implications for today," by Robert S. Boyd, September 10, 2001.

International Newspapers:

1. *Sydney Morning Herald* (Australia): "Cold as ice," by Deborah Smith, September 8 2001.
2. *The Age Newspaper* (Australia): "Genetic link to 1918 flu scourge found," by Penny Fannin, September 8, 2001.

Wire Services:

1. *Reuters*: "Pig, human viruses triggered 1918 flu pandemic," by Will Dunham, September 6, 2001.
2. *Reuters Health*: "Researchers uncover flu's deadly tricks," by Merritt McKinney, September 6, 2001.
3. Knight-Ridder News Service: "1918 flu epidemic has implications for today," by Robert Boyd, September 6, 2001.

Magazines:

1. *Geo Magazin*: "Grippe: Die Unterschätzte Gefahr [Flu: the undervalued danger]," cover story by Uta Henschel, February 2001;14-42.
2. *Population and Development Review*: "Flu: the story of the great influenza pandemic of 1918 and the search for the virus that caused it," by Andrew Noymer, March 1, 2001.

Books:

1. *Booknotes: Stories from American History*, by Brian Lamb, Public Affairs Press, New York, 2001
2. *DNA Technology: The Awesome Skill*, 2nd ed, by Edward Alcamo, Harcourt Academic Press, San Diego, 2001.
3. *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus that Caused it*, Gina Kolata, Touchstone, first paperback edition, New York, 2001.
4. *Influenza: Die Jagd nach dem Virus [Influenza: The Hunt for the Virus]*, by Gina Kolata, German translation, S. Fischer, Frankfurt, 2001.
5. *The Spanish Flu Pandemic of 1918*: Howard Philips and David Killingray, eds., Routledge Studies in the Social History of Medicine, vol 12, Routledge Press, London.

Television:

- Documentary films were broadcast on Canadian TV and Netherlands TV in 2001.

Radio:

- *National Public Radio, All Things Considered*: "Preparing for the next virulent outbreak

should become a public health priority,” by Richard Harris, September 6, 2001.

Internet Sites:

1. *Dr.Koop.com*: “A flu pandemic: Could it happen again?” February 1, 2001, <http://www.koop.com>
2. *Intelihealth.com*: “Scientists attempt to crack code of deadly flu virus,” February 27, 2001, <http://ipn.intelihealth.com/IPN/ihIPN/WSIPN000/23883/7191/312541.html>
3. *MSNBC.com*: “The genetic genesis of a killer flu,” by Becky Ham, September 6, 2001, <http://www.msnbc.com>
4. *Science Daily*: “1918 flu,” September 2001, <http://www.sciencedaily.com/releases/2001/09/010907081636.htm>
5. *Dr.Koop.com*: “Influenza,” November 2001, <http://health.aol.drkoop.com/news/focus/november/influenza.html>

Continuing Education:

1. AFIP Clinical Staff Conferences.
2. AFIP Molecular Pathology Division Seminar Series.
3. 7th Annual Association for Molecular Pathology Meeting, Philadelphia, Pa.
4. 89th Annual US and Canadian Academy of Pathology Meeting, San Francisco, Calif.

Official Trips:

1. January 9-14, 2001, Taos, NM: Keystone Symposia, “The molecular basis of cancer: signaling to cell growth and death,” Q Liang (Funding agency: NIH grant).
2. April 3-8, 2001, Steamboat Springs, Colo: Keystone Symposia, “Small GTP binding proteins,” A Loudon (Funding agency: NIH grant).
3. April 23, 2001: Weybridge Veterinary Laboratories, Invited Seminar, “Genetic characterization of the 1918 influenza virus,” Weybridge, England, UK, JK Taubenberger (Funding agency: Royal Society).
4. April 25, 2001: Royal Society Discussion, “The Origin and Control of Pandemic Influenza” Plenary Lecture: “The 1918 influenza virus: recent findings,” London, England, UK, JK Taubenberger (Funding agency: Royal Society).
5. April 30, 2001: Oxford University, Sir William Dunn School of Pathology, Invited Seminar, “Update on the 1918 influenza virus,” Oxford, England, UK, JK Taubenberger (Funding agency: Royal Society).
6. June 14, 2001: Grand Rounds at Anchorage Native American Hospital, “Characterization of the 1918 ‘Spanish’ influenza virus,” Anchorage, Alaska, JK Taubenberger (Funding agency: American College of Physicians, Anchorage Chapter).
7. June 14, 2001: Physician’s Journal Club, Anchorage Physician’s Group, “Gene chip arrays in lymphoma diagnosis,” Anchorage, Alaska, JK Taubenberger (Funding agency: American College of Physicians, Anchorage Chapter).
8. June 15, 2001: Grand Rounds at Providence Hospital, “Characterization of the 1918 ‘Spanish’ influenza virus,” Anchorage, Alaska, JK Taubenberger. (Funding agency: American College of Physicians, Anchorage Chapter).
9. June 15, 2001: Grand Rounds at Anchorage Hospital, “An overview of molecular diagnosis,” Anchorage, Alaska, JK Taubenberger (Funding agency: American College of Physicians, Anchorage Chapter).
10. November 15-18, 2001: Philadelphia, Pa, Association for Molecular Pathology Annual Meeting, KE Bijwaard (Funding agency: AFIP).
11. November 15-18, 2001: Philadelphia, Pa, “Association for Molecular Pathology” Annual Meeting, J Dement (Funding agency: ARP).
12. November 15-18, 2001: Philadelphia, Pa, Association for Molecular Pathology annual meeting, JH Lichy (Funding agency: AFIP).
13. November 29, 2001: IV International Symposium on Respiratory Viral Infections; Platform Presentation: “Update on the 1918 virus,” Curaçao, Netherlands Antilles AH Reid (Funding agency: Meeting organizer).

PRESENTATIONS

1. March 6, 2001: NIH FAES Course Lecture: "Molecular methods in the diagnosis of cancer," Bethesda, Md, JH Lichy.
2. March 27, 2001: The Emerging Threat of Biological Weapons and Bioterrorism: An International Scientific and Diplomatic Challenge Course, Invited Lecturer, "Molecular biologic techniques in detection of biological agents," Uniformed Services University of Health Sciences, Bethesda, Md, AE Krafft.
3. April 5, 2001: George Mason University, Biology Department Seminar, "Characterization of the 1918 'Spanish' influenza virus," Fairfax, Virginia, JK Taubenberger.
4. April 19, 2001: Invited Seminar, Howard University, Department of Genetics: "Genetic disorders of cell signaling pathways," Washington, DC, JH Lichy.
5. April 23, 2001: Weybridge Veterinary Laboratories, Invited Seminar, "Genetic characterization of the 1918 influenza virus," Weybridge, England, UK, JK Taubenberger.
6. April 25, 2001: Royal Society Discussion, "The Origin and Control of Pandemic Influenza" Plenary Lecture: "The 1918 influenza virus: recent findings," London, England, UK, JK Taubenberger.
7. April 30, 2001: Oxford University, Sir William Dunn School of Pathology, Invited Seminar, "Update on the 1918 influenza virus," Oxford, England, UK, JK Taubenberger.
8. May 7, 2001: AFIP Course, Review of Surgical Pathology, "Molecular diagnosis of cancer," Bethesda, Md, JH Lichy.
9. May 7, 2001: AFIP Course, Review of Surgical Pathology, "Molecular diagnosis of infectious disease," Bethesda, Md, JH Lichy.
10. May 9, 2001: AFIP Staff Conference, "Using history as a microscope: the enigma of von Economo's encephalitis lethargica," Washington, DC, JK Taubenberger, J Henry.
11. May 10, 2001: ASBREM Briefing, "Characterization of the 1918 'Spanish' influenza virus," Roslyn, Va, JK Taubenberger.
12. May 10, 2001: Graduate Student Presentation, Howard University Scientific Research Forum: "Identification of a novel MAP kinase inhibiting protein," Washington, DC, A Loudon.
13. May 16, 2001: AFIP Staff Conference: "Gene rearrangement assays in the diagnosis of lymphoma," Washington, DC, JH Lichy and JK Taubenberger.
14. May 31, 2001: ARP Board Meeting, "Characterization of the 1918 'Spanish' influenza virus," Cosmos Club, Washington, DC, JK Taubenberger.
15. June 12, 2001: Invited Seminar, George Washington University Hospital, Department of Pathology, "Molecular diagnostics," Washington, DC, JH Lichy.
16. June 14, 2001: Grand Rounds at Anchorage Native American Hospital, "Characterization of the 1918 'Spanish' influenza virus," Anchorage, Alaska, JK Taubenberger.
17. June 14, 2001: Physician's Journal Club, Anchorage Physician's Group, "Gene chip arrays in lymphoma diagnosis," Anchorage, Alaska, JK Taubenberger.
18. June 15, 2001: Grand Rounds at Providence Hospital, "Characterization of the 1918 'Spanish' influenza virus," Anchorage, Alaska, JK Taubenberger.
19. June 15, 2001: Grand Rounds at Anchorage Hospital, "An overview of molecular diagnosis," Anchorage, Alaska, JK Taubenberger.
20. July 19, 2001: ATCC, Invited Seminar, "Genetic characterization of the 1918 'Spanish' Influenza virus," Manassas, Va, JK Taubenberger.
21. November 1, 2001: Virginia Public Health Association Annual Conference, Platform Presentation: "Genetic characterization of the 1918 'Spanish' Influenza virus," George Mason University, Fairfax, Va, JK Taubenberger.
22. November 29, 2001: IV International Symposium on Respiratory Viral Infections, Platform Presentation, "Update on the 1918 virus," Curaçao, Netherlands Antilles, AH Reid.

PUBLICATIONS

Journal articles

1. Aguilera NSI, Tomaszewski M-M, Moad JC, Bauer FA, Taubenberger JK, Abbondanzo SL Cutaneous follicle center lymphoma: a clinicopathologic study of 19 cases. *Mod Pathol*. 2001;14:828-835.

2. Arber DA, Breziel RM, Bagg A, Bijwaard KE. Evaluation of T-cell receptor testin in lymphoid neoplasms: results of a multicenter study of 29 extracted DNA and paraffin-embedded samples. *J Mol Diagn.* 2001;3:133-140.
3. Basler CF, Reid AH, Dybing JK, Janczewski TA, Fanning TG, Zheng H, Salvatore M, Perdue ML, Swayne DE, Garcia-Sastre A, Palese P, Taubenberger JK. Sequence of the 1918 pandemic influenza virus nonstructural (NS) segment and characterization of recombinant viruses bearing 1918 NS genes. *Proc Natl Acad Sci USA.* 2001;98:2746-2751.
4. Bijwaard KE, Aguilera NSI, Monczak Y, Trudel M, Taubenberger JK, Lichy JH. Quantitative real-time reverse transcription PCR assay for cyclin D1 expression: utility in the diagnosis of mantle cell lymphoma. *Clin Chem.* 2001;47:195-201.
5. Hong IS, Krafft AE. Primary effusion lymphoma (PEL) with herpesvirus-8 DNA in patients with HIV-seropositive and hepatitis C virus infection: a report of two cases. *AIDS Reader.* 2001;11:418-422.
6. Kardon DE, Thompson LDR, Przygodzki RM, Heffess CS. Adenosquamous carcinoma of the pancreas: a clinicopathologic series of 25 cases. *Mod Pathol.* 2001;14:443-451.
7. Kingma DW, Sorbara L, Kurlander R, Imus P, Taubenberger JK, Stetler-Stevenson M (2001) CD3 negative, clonal lymphoproliferative disorder of granular lymphocytes. *Case Studies in Clinical Flow Cytometry.* 2001;1(2) [On-line journal, www.flowcases.org].
8. Kittiniyom K, Gorse KM, Dalbague F, Lichy JH, Taubenberger JK, Newsham IF. Allelic loss on chromosome band 18p11.3 occurs early and reveals heterogeneity in breast cancer progression. *Breast Cancer Res.* 2001;3:192-198.
9. Krafft AE, Kulesh D. Applying molecular biological techniques to detecting biological agents. *Clin Lab Med.* 2001;21:631-660.
10. Layne SP, Beugelsdijk TJ, Taubenberger JK, Cox NJ, Gust ID, Hay AJ, Tashiro M, Lavanchy D. Global laboratory against influenza [invited editorial]. *Science.* 2001;293:1729.
11. Li SQ, O'Leary TJ, Buckner SB, Przygodzki RM, Sobin LH, Erozan YS, Rosenthal DL. Fine needle aspiration of gastrointestinal stromal tumors. *Acta Cytol.* 2001;45:9-17.
12. Liang Q, Dedon PC. Cu(II)/H₂O₂-induced DNA damage is enhanced by packaging of DNA as a nucleosome. *Chem Res Toxicol.* 2001;14:416-422.
13. Liang Q, Davis PA, Thompson BH, Simpson JT. High-performance liquid chromatography multiplex detection of two single nucleotide mutations associated with hereditary hemochromatosis. *J Chromatogr B Biomed Sci Appl.* 2001;754:265-270.
14. Lipscomb TP, Mense MG, Habecker PL, Taubenberger JK, Schoelkopf R. Morbilliviral dermatitis in seals. *Vet Pathol.* 2001;38:724-726.
15. McCall S, Henry JM, Reid AH, Taubenberger JK. Influenza virus RNA not detected in archival brain tissues from acute encephalitis lethargica cases or in postencephalitic Parkinson cases. *J Neuropathol Exp Neurol.* 2001;60:696-704.
16. McCall S, Lichy JH, Bijwaard KE, Aguilera NSI, Chu W-S, Taubenberger JK. Epstein-Barr virus detection in ductal carcinoma of the breast. *J Natl Cancer Inst.* 2001;93:148-150.
17. Paal E, Thompson LD, Frommelt RA, Przygodzki RM, Heffess CS. A clinicopathologic and immunohistochemical study of 35 anaplastic carcinomas of the pancreas with a review of the literature. *Ann Diagn Pathol.* 2001;5:129-140.
18. Perera P-Y, Mayadas TN, Takeuchi O, Akira S, Zaks-Zilberman M, Goyert SM, Vogel SN. CD11b/CD18 acts in concert with CD14 and Toll-like receptor (TLR)4 to elicit full lipopolysaccharide and taxol-inducible gene expression. *J Immunol.* 2001;166:574-581.
19. Przygodzki RM, Goodman ZD, Rabin L, Centeno JA, Liu Y, Hubbs AE, O'Leary TJ. Hemochromatosis (HFE) gene sequence analysis of formalin-fixed, paraffin-embedded liver biopsy specimens. *Mol Diagn.* 2001;6:227-232.
20. Przygodzki RM, Koss MN, O'Leary TJ. Pleomorphic (giant and/or spindle cell) carcinoma of lung shows a high percentage of variant CYP1A1*2. *Mol Diagn.* 2001;6:109-115.
21. Reid AH, McCall S, Henry JM, Taubenberger JK. Experimenting on the past: the enigma of von Economo's encephalitis lethargica. *J Neuropathol Exp Neurol.* 2001;60:663-670.
22. Reid AH, Taubenberger JK, Fanning TG. The 1918 Spanish influenza: integrating history and biology. *Microbes Infect.* 2001;3:81-87.
23. Schulman FY, Krafft AE, Janczewski T. Feline cutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus infection. *Vet Pathol.* 2001;38:291-296.

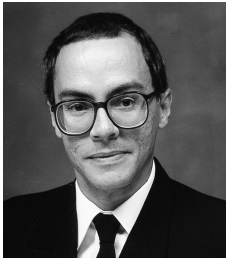
24. Sheng Z-M, Przygodzki RM, O'Leary TJ. Rapid screening for *KIT* mutation by capillary electrophoresis. *Clin Chem*. 2001;47:1325-1326.
25. St John, PL, Wang R, Yin Y, Miner JH, Robert B, Abrahamson DR. Glomerular laminin isoform transitions: errors in metanephric culture are corrected by grafting. *Am J Physiol Renal Physiol*. 2001;280:F695-705.
26. Taubenberger JK, Layne SP. Diagnosis of influenza virus: coming to grips with the molecular era. *Mol Diagn*. 2001;6:291-305.
27. Taubenberger JK, Reid AH, Janczewski TA, Fanning TG. Integrating historical, clinical, and molecular genetic data to explain the origin and virulence of the 1918 'Spanish' influenza virus. *Philos Trans Royal Soc B Biol Sci*. 2001;356:1829-1839.
28. Vogel S, Hirschfeld J, Perera P-Y. Signal integration in lipopolysaccharide (LPS)-stimulated murine macrophages. *J Endotoxin Res*. 2001;7:237-241.

Book Chapters

1. Taubenberger JK. Sequencing influenza A from the 1918 pandemic, investigating its virulence, and averting future outbreaks. In: Layne S, Beugelsdijk TJ, Patel CKN, eds. *National Academy Colloquium Proceedings: Automation in Threat Reduction and Infectious Disease Research: Needs and New Directions*. Washington DC: National Academy Press; 2001;123-130.
2. Taubenberger JK. Genetic characterization of the 1918 'Spanish' influenza virus. In: Philips H, Killingray D, eds. *The Spanish Flu Pandemic of 1918*. Routledge Studies in the Social History of Medicine 12. London, England: Routledge Press; 2001.
3. Taubenberger JK, Reid AH, Janczewski TA, Fanning TG. Characterization of the 1918 influenza virus hemagglutinin and neuraminidase genes. In: Osterhaus ADME, Cox N, Hampson AW, eds. *Options for the Control of Influenza IV*. Amsterdam, The Netherlands: Excerpta Medica; 2001:545-549.

Abstracts

1. Bijwaard KE, Przybocki JM, Dement-Brown JL, Taubenberger JK, Lichy JH. Detection of PAX/FKHR fusion transcripts in archival rhabdomyosarcomas by real-time reverse transcriptase-polymerase chain reaction. *J Mol Diagn*. 2001;3:211.
2. Blaylock R, Wang R, and Nagy TR. Beacon and uncoupling protein expression in a seasonal model of obesity. The NAASO 2001 Annual Meeting.
3. Fujii T, Bijwaard KE, Taubenberger JK, Lichy JH, Franks TJ, Travis WD. Pulmonary synovial sarcoma: a real-time reverse transcriptase-polymerase chain reaction assay for detection of SYT-SSX fusion transcripts in formalin-fixed, paraffin-embedded tissue. *Lab Invest*. 2001;81:219A. *Mod Pathol*. 2001;14:219A.
4. Henry JM, Reid AH, McCall S, Taubenberger JK. Experimenting on the past: von Economo's encephalitis lethargica. American Association of Neuropathology Meeting; June 22, 2001; Chicago Ill.
5. Lichy JH, Krafft AE, Bijwaard KE, Przybocki JM, Dement-Brown JL, Taubenberger JK, Goodman ZD. Clonal antigen receptor gene rearrangements in inflammatory liver disease. *J Mol Diagn*. 2001;3:198.
6. Nicholson SA, Khan MA, Welsh JA, Travis WD, Okby N, Bennett W, Przygodzki RM, Jett JR, Tazelaar, HD, Trastek V, Pairolero PC, Liotta LA, Caporaso NE, Harris CC. p14ARF deletion is associated with poor prognosis in non-small cell lung carcinoma (NSCLC). *Lab Invest*. 2001;81:224A. *Mod Pathol*. 2001;14:224A.
7. Schulman FY, Krafft AE, Janczewski T, Reupert R, Jackson K, Garner MM. Camelid cutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus. 2001 American College of Veterinary Pathology Meeting; Salt Lake City, Utah.
8. Taubenberger JK, Reid AH, Janczewski TA, McCall S, Fanning TG. Genetic characterization of the 1918 'Spanish' influenza virus. Royal Society Meeting: Pandemic Influenza, April 25-26, 2001; London, England.



Eric S. Suarez, CDR, MC, USN
Chief
Date of Appointment—1 December 2000



DIVISION OF PRENATAL, PERINATAL AND PLACENTAL PATHOLOGY

MISSION

The Division of Prenatal, Perinatal and Placental Pathology provides extramural and intramural consultation on pediatric, placental, and gestational pathology; engages in research activities concerning pediatric pathology and gestational disorders; and provides the medical community with educational opportunities for the study of pediatric, placental, or gestational pathology.

STAFF

- Medical:*
Eric S. Suarez, CDR, MC, USN, Chief
Glenn E. Dickey, Col, USAF, MC (ret)
- Administrative:*
Stephanie Hudson, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	210
Army	(93)
Navy	(64)
Air force	(53)
Federal	5
USPHS	(5)
Civilian	519
Interdepartmental	55
Total	734

Impact:
Of the total number of cases, 40 had no diagnosis rendered by the contributing pathologist and 23 had major diagnostic changes with clinical implications. Many of the specimens submitted to the division were accompanied by wet tissue, or were full autopsies. The 124 autopsies were from multiple sources: 42 civilian, 17 Army, 20 Navy, 14 Air Force, 1 Public Health Service autopsy, and 38 autopsies received in consult from other departments within the AFIP. During 2001, our staff performed extensive dissections of specimens from cases showing complex congenital cardiac or central nervous system malformations, and also performed 13 full autopsies. Gross photograph, x-ray, high-field magnetic resonance imaging, and electron-microscopic evaluations were done, as needed.

It is difficult to determine the actual proportions of autopsy and surgical cases due to a large degree of overlap in the material received and accessioned. Several autopsy cases had surgical material, such as placenta, that was not included separately in the tabulation of cases. Conversely, some fetal death autopsy cases were tabulated as surgical specimens. Most of the surgical cases of gestational trophoblastic disease were reviewed in cooperation with the Division of Quantitative Pathology, which provided flow cytometry for these specimens. Our division also provided consultation to the Office of the Armed Forces Medical Examiner for the evaluation of cases of infant death. Some cases with multiple malformations were also

evaluated by experts from the Division of Clinical Genetics.

Consultation with contributing pathologists is an active educational process. If this is done by telephone, it increases the diagnostic yield, as the contributor can benefit from our opinion prior to beginning the autopsy procedure. As a consulting center, we provide expert opinions to multiple DoD hospitals and centers that would otherwise have to arrange similar services with private providers. We provide experts in pediatric pathology, perinatal medicine, and clinical genetics who enhance the quality of genetic services in the Department of Defense. Our efforts are likely to increase with the implementation of specialty Web sites.

Committees:

Dr. Dickey served as chair of the Incorporation and Bylaws Committee of the Society for Pediatric Pathology, was a member of the AFIP Credentials Committee, and taught at the Uniformed Services University of the Health Sciences. Dr. Suarez was a member of the Institutional Review Board.

Deployments: Dr. Dickey provided consultation as a staff member to the Andrews Air Force Base during the month of August.

Quality Assurance: The division provided quality assurance by reviewing cases from hospitals and centers of the Department of Defense, the Brazilian Society of Pathology, as well as 1 case as part of the VA/QA program to military hospitals.

EDUCATION

Presentation and Seminars: Division staff made 7 presentations at conferences and seminars in 2001. Complete dates and titles are listed at the end of this report.

Courses:

1. AFIP Eleventh Annual Course, "Placenta and Gestational Trophoblastic Disease."
2. AFIP Eleventh Annual Course, "Common Pediatric Tumors."

OTHER ACCOMPLISHMENTS

Offices/Committee Memberships in National or International Societies: Chair, Incorporation and Bylaws Committee, Society for Pediatric Pathology, Dr. Dickey.

Faculty Appointments:

1. Uniformed Services University of the Health Sciences, Clinical Assistant Professor, Department of Pathology, ES Suarez.
2. Uniformed Services University of the Health Sciences, Clinical Assistant Professor, Department of Pathology, GE Dickey.
3. Howard University Hospital, Clinical Assistant Professor, Department of Pathology, ES Suarez.
4. Howard University Hospital, Clinical Assistant Professor, Department of Pathology, GE Dickey.
5. Shady Grove Adventist Hospital, Affiliate Staff Pathologist, GE Dickey.
6. Washington Adventist Hospital, Affiliate Staff Pathologist, GE Dickey.

PRESENTATIONS

1. May 2001: Silver Spring, Maryland, Anatomic Pathology Review and Update, AFIP Eleventh Annual Course, "Placenta and gestational trophoblastic disease," GE Dickey.
2. May 2001: Silver Spring, Maryland, Anatomic Pathology Review and Update, AFIP Eleventh Annual Course, "Common pediatric tumors," ES Suarez
3. May 2001: Washington, DC, National Senior Resident Symposium, AFIP. "Pediatric pathology slide seminar," GE Dickey
4. May 2001: Washington, DC, AFIP, National Senior Resident Symposium, "Pediatric pathology slide seminar," ES Suarez.
5. February 2001: Bethesda, Maryland, Pathology Course (PA 2001), Uniformed Services University of the Health Sciences Class Lecture, "Pathology of pediatric infectious disease," GE Dickey
6. May 2001: Washington, DC, The George Washington University Medical Center, Department of Pathology, "Pediatric pathology of abdominal masses," GE Dickey
7. February 2001: Washington, DC, AFIP, Professional Staff Conference, "Developmental lesions of the lung," Suarez ES.



Robert L. Becker, Jr, Col, USAF, MC
Chief
Date of Appointment – 1 April 1988



DIVISION OF QUANTITATIVE PATHOLOGY

MISSION

The Division of Quantitative Pathology conducts research and educational programs in flow cytometry, image analysis, morphometry, and artificial intelligence as applied to pathology. We develop applications of these techniques for consultation, as appropriate.

STAFF

- Medical:*
Robert L. Becker, Jr, Col, USAF, MC
William R. Oliver, MD
- Scientific:*
Alison Director-Myska, PhD
Annette Geissel, HT, ASCP
Michelle Webb, BS

DIAGNOSTIC CONSULTATION

Cases	Flow Cytometry Completed	Forensic Completed
Military	37	6
Army	(29)	(4)
Navy	(7)	(1)
Air Force	(1)	(1)
Federal	5	2
VA	(3)	(1)
USPHS	(2)	
FBI		(1)
Civilian	26	
Foreign Government		3
Interdepartmental	3	4
Total	71	15

The above cases required the following types of procedures and analyses:

- H&E stain: 160
- Image digitization: 15
- Forensic modeling and rendering: 1

Of the flow cytometry cases, 69 were for analysis of products of conception. Results in 3 POC cases contradicted the histological impression 2 cases changed from partial mole to hydropic degeneration; one case with the reverse change). In 50 cases, flow cytometry resolved a differential diagnosis between partial mole and either complete mole or hydropic degeneration. Fifteen flow-cytometric studies confirmed a histological impression. In 1 case, no histological impression was stated.

The forensic cases included investigation of a triple homicide in Quebec, child abuse, investigation of the murder of American missionaries during the Rwandan genocide, rape-murder, and a suspicious drowning involving 6 fatalities.

Impact:

The flow cytometry consultations allow distinction between partial mole and hydropic degeneration, or between complete mole and partial mole in products of conception. With the correct diagnosis, patients are stratified for high, low, or negligible risk of developing persistent trophoblastic disease or choriocarcinoma, and are followed up or treated accordingly.

Our investigations were important in determining the murder weapons for multiple killings and understanding the mechanisms of accidental death.

Deployments:

September 11-16, 2001, Dover AFB, Identification and evaluation of human remains from the terrorist attack on the Pentagon, WR Oliver.

Quality Assurance:

1. October 30, 2001, Rockville, Md, College of American Pathologists inspection, zero deficiencies, RL Becker,
2. June 31, 2001 to December 31, 2001, Dr. Oliver executed a standing assignment to consolidate QA/RM reports across the department's divisions and prepare them for departmental review.

EDUCATION

Presentations and Seminars: Division staff made 7 presentations in 2001. Complete dates and titles are listed at the end of this report.

Courses:

WR Oliver:

1. Advanced Practicum in Forensic Pathology, presented by the Office of the Armed Forces Medical Examiner.
2. Forensic Odontology Course, presented by the Oral Pathology Department.

Trainees: Dr. Director-Myska worked with 4 trainees: Resident, Dr. Tony Corsini, 10 training days; Resident, Dr. Denise Peet, 10 training days; and Graduate Student/Scientist, Mr. J. S. White, 300 training days.

RESEARCH

Publications: Division staff published 1 journal article, 1 abstract, and 2 other publications. Complete references are given at the end of this report.

1. Comparative Genomic Hybridization (CGH) of Uveal Melanoma, 10 cell lines and 100 archival cases, IW McLean (PI), AE Director-Myska, JS White.
2. Comparative Genomic Hybridization (CGH) of Follicular and Diffuse Lymphoma, TJ O'Leary (PI), AE Director-Myska.
3. Comparative Genomic Hybridization (CGH) of Pediatric GISTs, TJ O'Leary (PI), AE Director-Myska, Q Liang.
4. Comparative Genomic Hybridization (CGH) of Laser Microdissected Hodgkin Lymphoma Tissue, N Aguilera, J Chen, D Cruser, AE Director-Myska.
5. Molecular Characterization of a Small Cell Lymphoma. N Aguilera, AE Director-Myska, K Bijwaard.
6. Green Fluorescent Protein Localization and Identification of Gene Constructs, J Lichy, PY Perera, AE Director-Myska.
7. Evaluation of Body Armor Deformation due to Projectile Impact, M DeMaio, WR Oliver.
8. Evaluation of Liver Histology, Z Goodman, RL Becker.
9. Morphometric Analysis of Distribution of Fibrosis, Z Goodman, RL Becker.

Research Funds Received:

1. The division received, through the Hepatic Pathology Registry, industry support exceeding \$50,000, for a research associate to provide hepatic collagen measurements in tests of drug efficacy against hepatitis C progression.

2. The division received, through the Body Armor Project, support in excess of \$10,000, for model acquisition and development, and injury visualization.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. FBI: Digital Image Visualization Consultation
2. FBI: National Standards for Forensic Image Acquisition
3. FBI: National Standards for Forensic Image Analysis
4. SBCCOM: Policy for Mass Fatality Management

Civilian:

1. District of Columbia Medical Examiner, the Maryland State Medical Examiner, and Boeing Corporation: Development of far infrared (hyperspectral) imaging instruments and methods for evaluating patterned injuries.
2. Institute for Forensic Imagery and Purdue University: Establishing standards in forensic digital photography.
3. University of North Carolina at Chapel Hill: Image-based rendering for forensic scene analysis.

Interdepartmental:

1. Department of Hematopathology, Genomic screening (comparative genomic hybridization) of follicular center lymphomas to characterize changes associated with progression.
2. Department of Hematopathology, Comparative genomic hybridization (CGH) of laser microdissected Hodgkin lymphoma tissue.
3. Department of Hematopathology, Molecular characterization of a small cell lymphoma.
4. Department of Ophthalmic Pathology, Comparative genomic hybridization of uveal melanoma.
5. Division of Hepatic Pathology, Department of Hepatic and Gastrointestinal Pathology, Measurement of collagen (fibrosis and scarring) in liver, evaluating tissue from patients in a trial of Tenovir treatment for hepatitis C.
6. AFIP Scientific Computing Group, Enhance LAN security and assess effects from attempted intrusions.
7. Division of Molecular Pathology, Histotechnology support for conduct of various research projects.
8. Division of Biophysics, Histotechnology and 2D imaging support for conduct of various research projects.
9. Department of Ophthalmic Pathology, Magnetic resonance imaging in the evaluation of retinal hemorrhage in shaken baby syndrome.

Honors: Dr. Oliver received the Commander's Award for Civilian Service.

Committees:

Editorial Boards:

1. *Applied Immunohistochemistry and Molecular Morphology*, RL Becker
2. *Electronic Journal of Pathology and Histology*, RL Becker

Manuscripts Reviewed:

IEEE Transactions on Medical Imaging, WR Oliver

Offices/Committee Memberships in National or International Societies:

1. Member, EMS Awards Committee, Environmental Mutagen Society, AE Director-Myska
2. Member, EMS Nominating Committee, Environmental Mutagen Society, AE Director-Myska
3. Member, EMS Membership Committee, Environmental Mutagen Society, AE Director-Myska
4. Member, Core Committee on Bioterrorism, National Association of Medical Examiners Proponent, WR Oliver

5. Chair, National Image Interpretability and Reliability Standard Development Committee for Application of NIIRS in Forensic Autopsy Pathology, National Association of Medical Examiners, WR Oliver
6. Chair, Exhibits Committee, Association of Military Surgeons of the United States, RL Becker
7. Executive Committee, Applied Image Pattern Analysis, WR Oliver

Federal:

1. Chair, Image Quality Subcommittee, Scientific Working Group for Imaging Technology, Federal Bureau of Investigation, WR Oliver
2. Chair, Image Analysis Subcommittee, Scientific Working Group for Imaging Technology, Federal Bureau of Investigation, WR Oliver
3. Member, Contract Review Committee for Visual Human Segmentation Project, National Library of Medicine, WR Oliver
4. Mass Fatality Management Committee, SBCCOM, WR Oliver

Faculty Appointments: University of North Carolina, Adjunct Professor, Pathology, WR Oliver

Official Trips (funding agency in parentheses):

1. March 2001: Environmental Mutagen Society, San Diego, Calif, JS White (West Virginia University, Genetic Toxicology Association)
2. June 2001: Workshop: Prognostic Factors in Uveal Melanoma, Leiden, The Netherlands, AE Director-Myska (ARP)
3. June 2001: Scientific Working Group for National Standards in Forensic Imaging, Quantico, Va, WR Oliver (FBI)
4. June 2001: Digital Human Modeling for Design and Engineering, Washington, DC, WR Oliver (ARP)
5. October 2001: National Association of Medical Examiners, Richmond, Va, WR Oliver (AFIP)
6. October 2001: Genetic Toxicology Association, Newark, Del, JS White (GTA)

Continuing Education: SANS training and certification in computer security incident handling, WR Oliver.

PRESENTATIONS

1. January 2001: Washington, DC, AFIP Staff Conference, "Virtual slide: development and applications," RL Becker.
2. January 2001: Washington, DC, AFIP Staff Conference, "Fishing for answers: DNA hybridization techniques in research and clinical genetics," AE Director-Myska.
3. March 2001: San Diego, Calif, Environmental Mutagen Society, "Molecular prognostic indicators of uveal melanoma: correlation of DNA sequence copy number aberrations with patient follow-up," JS White.
4. June 2001: Leiden, The Netherlands, Workshop: Prognostic Factors in Uveal Melanoma. Leiden University Medical Center, "Molecular cytogenetics of uveal melanoma cell lines," AE Director-Myska.
5. June 2001: Quantico, Va, Scientific Working Group for National Standards in Forensic Imaging, "Image quality in forensic image processing," WR Oliver.
6. October 2001: Newark, Del, Genetic Toxicology Association, "Application of fluorescence in situ hybridization techniques: investigation of molecular prognostic indicators in uveal melanoma," JS White.
7. December 2001: Quantico, Va, Advanced Practicum in Forensic Pathology, "Resolution issues in forensic imaging" WR Oliver.

PUBLICATIONS

Journal Articles

Director-Myska AE, Pogozelski WK, Lofts RS, Prasanna PGS, Hamel CJC, Blakely WF. Quantitative plasmid mixture analysis using the fluorogenic 5'-nuclease polymerase chain reaction assay. *Environ Mol Mutagen*. 2001;37:147-154.

Abstracts

White JS, McLean IW, Nath J, Becker RL, Director-Myska AE. Molecular prognostic indicators of uveal melanoma: correlation of DNA sequence copy number aberrations with patient follow-up. *Environ Mol Mutagen.* 2001; 37(suppl 32):79.

Other Publications

1. Miller AC, Luo L, Chin WK, Director-Myska AE, Prasanna PGS, Blakely WF. Proto-oncogene expression: a predictive assay for radiation biodosimetry applications. *Proceedings of the 13th Symposium on Microdosimetry*; 2001; Stresa, Italy. (Invited)
2. Director-Myska AE, McLean IW. Molecular cytogenetic characterization of ten uveal melanoma cell lines. *Proceedings of the Workshop on Prognostic Factors in Uveal Melanoma*; 2001; Lieden, The Netherlands. (Invited)



Susan L. Abbondanzo, MD
Chair
Date of Appointment — 1 May 1994



DEPARTMENT OF HEMATOPATHOLOGY

MISSION

The Department of Hematopathology renders expert consultation on cases involving the pathology of the hematopoietic system. Cases are submitted by the Departments of Defense and Veterans Affairs, and by civilian hospitals worldwide. Staff members participate in various local and national educational and research endeavors involving topics related to hematopathology.

STAFF

Medical:

Susan L. Abbondanzo, MD, Chair
Nadine S. Aguilera, MD, Assistant Chair
(D) Meenakshi A. Nandedkar, CDR, MC, USNR, Staff Pathologist
Stephen I. Fischer, Maj, USAF, MC, Staff Pathologist
Brad Davis, MAJ, MC, USA, Staff Pathologist
(D) Jian Chen MD, Callender-Binford Fellow
(A) Alan Oroxom, MD, Callender-Binford Fellow
(A) Daniel Cruser, USA, MC, Fellow

Scientific:

Wei-Sing Chu, MD, Supervisor, Immunology Laboratory
Min Qi Wei, Technologist, Immunology Laboratory
(A) Lynn Xi, Technologist, Immunology Laboratory

Administrative:

Michele L. Kelly, Administrator/Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	267
Army	(114)
Navy	(45)
Air Force	(108)
Federal	623
VA	(619)
USPHS	(0)
OFA	(4)
NFR	15
Civilian	734
Interdepartmental	1,164
Total	2,803

1,526 cases for consultation, 90 for education, and 64 for research (1680 total/3,076 blocks) required the following types of procedures and analyses:

- H&E stains – 3,875 slides
- Special stains – 2,181 slides
- Immunohistochemical staining – 23,009 slides for 2,757 cases (Immunohistochemical staining main laboratory–399 slides for 58 cases)
- Unstained slides cut–35,787
- Total recuts studied – 41,893
- Contributor slides studied – 9,513
- Molecular biology examination – 372 tests for 110 cases

The department made no change in the contributor diagnosis in 839 cases, a minor change in diagnosis in 378 cases, and a major change in diagnosis in 70 cases. We received 326 cases with no contributor diagnosis; no cases were recorded without coding.

The department's extensive interdepartmental service provided consultation on 1,624 intramural cases in 2001, with an average turnaround time of 5.17 days. The department also examined approximately 1,164 consultations for other AFIP departments. In 2001, 90% to 95% of cases accessioned to the department required additional workup such as hematoxylin-eosin recuts, special histochemical stains, and, primarily, immunohistochemical marker studies. Molecular diagnostic assays were also used in approximately 10% of cases. The department has its own state-of-the-art immunohistochemistry laboratory, which provides support for all intradepartmental (and many interdepartmental) cases. Using this laboratory, we supported numerous research projects within and outside the department, and introduced 6 new antibodies for use in paraffin sections: bcl-10, CD16, CD2, CD29, CD54, and CD7.

In 2001, the Hematopathology Immunohistochemical Laboratory processed a total of 23,009 slides (2,757 cases). The Molecular Diagnostic Division of the Department of Cellular Pathology and Genetics, with whom the Department of Hematopathology has a close working relationship, collaborated in the development and investigation of new assays, including semiquantitative assays for C-myc and bcl-2.

Impact:

1. We provide the only ACGME-accredited hematopathology training program in the 3 branches of the military (Army, Navy, and Air Force).
2. We published the most up-to-date series of lymphoplasmacytoid lymphomas.

Quality Assurance:

Our laboratory is accredited by the College of American Pathologists. Throughout the year, the department participated in the quarterly CAP proficiency examination for immunohistochemistry laboratories. We also participate in at least 25% quality assurance of all consultation cases, with monthly reports to the Office of Quality Assurance.

EDUCATION:

Presentations and Seminars: Members of the department made 22 presentations in 2001. Dates and titles are listed at the end of this report. The department also conducts a 30- to 60-minute slide conference with visitors and staff for active cases 4 to 5 times per week, and a quarterly clinicopathologic conference with the Department of Radiologic Pathology at the AFIP.

Trainees: The department had 2 Callender-Binford fellows and 1 military fellow in 2001 (377 training days), with responsibilities involving service work (under the constant supervision of a credentialed staff pathologist), research, and lecturing. We also participate in the Washington, DC Science and Engineering Apprentice Program, in which a high school student apprentices in the laboratory and department for 6 weeks (30 trainee-days).

The department has been accredited by the Accreditation Council for Graduate Medical Education for a hematopathology fellowship program. Education for 2 hematopathology fellows-in-training has been approved. The program utilizes the clinical laboratories and staff at Walter Reed Army Hospital and the National Naval Medical Center in a combined institutional fellowship headed at the AFIP. It is the only accredited military graduate medical education program in hematopathology. Our program was inspected in November 2001 by the ACGME.

Educational Aids: The department maintains slide study sets (under protocol), Kodachrome sets, and a Web site maintained by a staff member. All study sets and tools were updated in 2001.

RESEARCH:

Publications: The Department of Hematopathology published 16 journal articles and 5 abstracts in 2001. Complete bibliographic information appears at the end of this report.

Projects: The department had 15 active research protocols as of December 31, 2001, and several ongoing research projects, including the following:

1. Ultrasound technology in tissue fixation
2. Atypical follicular hyperplasia in children
3. CD117 expression in extramedullary myeloid tumors
4. Splenic nonlymphomatous neoplasms
5. Lymphoplasmacytoid lymphoma/immunocytoma
6. Follicular dendritic patterns in nodular lymphoma
7. Ultrasound fixation and its affect on molecular genetic studies
8. Eosinophilic lymphadenitis
9. Immunohistochemistry multiwell staining system
10. Follicular lymphoma of the skin
11. Diffuse large B-cell lymphoma, two unusual subtype

Research Funds Received:

ARP grant 3029-#300-1012-3004-0

ARP grant 3047-#300-1012-3047-0

OTHER ACCOMPLISHMENTS:**Collaborators:*****Military/Federal:***

1. Elaine S. Jaffe, MD, National Institutes of Health, Histiocytic Neoplasms
2. Frederick W. Miller, MD, PhD, Food and Drug Administration, Immunophenotypic Analysis of Silicone Breast Implants

Civilian:

1. Steven H. Swerdlow, MD, University of Pittsburgh, Immunocytoma, Interfollicular Small Lymphocytic Lymphoma, and Lymphoplasmacytoid Lymphoma/Immunocytoma
2. Frank Bauer, MD, St. Francis Hospital, Hartford, Conn, Cutaneous Follicle Center Lymphoma
3. Lynn Levin, MD, Walter Reed Army Institute of Research, Viral Etiology of Hodgkin Lymphoma

International:

1. J Geradts, MD, Oxford University, UK, Tumor Suppressor Genes in Malignancy

Interdepartmental:

1. Dr. M-M Tomaszewski, Department of Dermatopathology, Cutaneous Follicle Center Lymphoma
2. Dr. O'Leary, Department of Cellular Pathology and Genetics, Transformation of Low-grade lymphoma
3. Dr. J Lichy, Department of Cellular Pathology and Genetics, Semiquantitative Method for Detecting Tumor Markers
4. L Thompson, Department of Otolaryngic Pathology

Honors: US Patent 6291180 issued 9/15/2001, "Ultrasound-Mediated High-Speed Biological Reaction and Tissue Processing"

Committees:

1. Immunohistochemistry Committee—W-S Chu
2. Credentials Committee—MA Nandedkar, BJ Davis
3. Internal Review Board—NS Aguilera
4. Consultation Committee—BJ Davis
5. Graduate Medical Education Committee—NS Aguilera, SL Abbondanzo

6. Center for Advanced Medical Education Committee—SL Abbondanzo
7. Committee for Continuing Medical Education—SL Abbondanzo
8. Molecular Pathology Committee—SL Abbondanzo

Manuscripts Reviewed: Dr. Abbondanzo reviewed articles for the following journals:

1. *Mayo Clinic Proceedings*
2. *Cancer*
3. *Archives of Pathology and Laboratory Medicine*
4. *American Journal of Clinical Pathology*

Faculty Appointments:

1. Georgetown University Medical Center, Department of Pathology, Adjunct Clinical Assistant Professor, SL Abbondanzo
2. Uniformed Services University of the Health Sciences, Adjunct Associate Professor, NS Aguilera
3. Uniformed Services University of the Health Sciences, Adjunct Associate Professor, MA Nandedkar
4. Howard University Hospital, Department of Dermatology, Clinical Assistant Professor, MA Nandedkar
5. Walter Reed Army Medical Center, Staff Pathologist, MA Nandedkar

New Missions: With the accreditation of our fellowship program, we have added a collaborative education mission with NNMCM and WRAMC.

Official Trips (funding agency in parentheses):

1. March 2001, United States and Canadian Academy of Pathology, SL Abbondanzo, NS Aguilera, SI Fisher, W-S Chu (AFIP)
2. November 2001, Society of Hematopathology, SL Abbondanzo, NS Aguilera (AFIP)
3. October 2001, 10th Annual Koppisch Lecture and 7th Pathology Symposium, SL Abbondanzo (University of Puerto Rico)
4. May 2001, St. Francis Hospital and Medical Center and Connecticut Society of Pathologists, SL Abbondanzo (St. Francis Hospital)

Continuing Education: The department staff attended the following training courses during 2001:

1. Annual US and Canadian Academy of Pathology (AFIP)
2. Society of Hematopathology (AFIP)
3. AFIP Weekly Professional Staff Conference
4. AFIP Annual Anatomic Pathology Review and Update Course (AFIP)

PRESENTATIONS

1. March 2001: Washington, DC, WRAMC, "Lymphomas and leukemias involving skin," MA Nandedkar.
2. March 2001: Atlanta, Ga, North American Society of Head and Neck Pathology, USCAP, "Histiocytic and benign hematomatolymphoid lesions of the head and neck," SL Abbondanzo.
3. April 2001: Washington, DC, National Capital Consortium of Residents, WRAMC, "Acute lymphoblastic leukemia," BJ Davis.
4. May 2001: Silver Spring, Md, Armed Forces Institute of Pathology Anatomic Review Course, "High-grade lymphoma," SI Fisher.
5. May 2001: Silver Spring, Md, Armed Forces Institute of Pathology Anatomic Review Course, "Hodgkin's disease," MA Nandedkar.
6. May 2001: Silver Spring, Md, Armed Forces Institute of Pathology Anatomic Review Course, "Small B-cell lymphoma," MA Nandedkar.
7. May 2001: Silver Spring, Md, Armed Forces Institute of Pathology Anatomic Review Course, "Reactive lymphadenopathies," BJ Davis.
8. May 2001: Silver Spring, Md, Armed Forces Institute of Pathology Anatomic Review Course, "T-cell lymphoma," NS Aguilera.

9. May 2001: Hartford, Conn, Connecticut Society of Pathologists, "Classification of lymphomas with an emphasis on extranodal sites," SL Abbondanzo.
10. May 2001: Hartford, Conn, St. Francis Hospital and Medical Center, "Lymphomas and lymphoid hyperplasia of the gastrointestinal tract," SL Abbondanzo.
11. July 2001: Washington, DC, National Capital Consortium of Residents, WRAMC, "Flow cytometry," BJ Davis.
12. September 2001, San Juan, PR, University of Puerto Rico, "Classification of lymphomas with an emphasis on extranodal sites," SL Abbondanzo.
13. September 2001, San Juan, PR, University of Puerto Rico, "Difficult cases in hematopathology," SL Abbondanzo.
14. September 2001, San Juan, PR, 10th Annual Koppisch Lecture, University of Puerto Rico, "Immunohistochemistry in the diagnosis of hematolymphoid lesions," SL Abbondanzo.
15. September 2001, Washington, DC, Clinical Laboratory Officers Course, WRAMC , "Hematopoiesis," BJ Davis.
16. September 2001, Washington, DC, Clinical Laboratory Officers Course, WRAMC , "Hemoglobinopathies," BJ Davis.
17. October 2001, Bethesda, Md, Armed Forces Institute of Pathology, 12th Annual Review of Gastrointestinal Surgical Pathology and Endoscopic Biopsies of the GI Tract, "Lymphoma and lymphoid hyperplasia of the gastrointestinal tract," SL Abbondanzo.
18. October 2001, Baltimore, Md, Maryland Society of Pathologists, "Classification of lymphomas with an emphasis on extranodal sites," SL Abbondanzo.
19. October 2001, Washington, DC, Georgetown Medical School Pathology Resident, "Hodgkin lymphoma in AIDS," SI Fisher.
20. November 2001, Washington, DC, Armed Forces Institute of Pathology, "Hodgkin lymphoma in AIDS," SI Fisher.
21. November 2001, Washington, DC, Armed Forces Institute of Pathology, "Hodgkin lymphoma: 2001 WHO update," BJ Davis.
22. November 2001, Boston, Mass, Society of Hematopathology, "Anaplastic large cell lymphoma, small cell variant," NS Aguilera.

PUBLICATIONS

Journal Articles

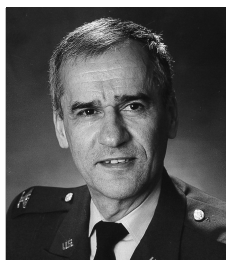
1. Abbondanzo SL. Extranodal marginal zone B-cell lymphoma of the salivary gland. *Ann Diagn Pathol.* 2001;5:246-254.
2. Aguilera NSI, Abbondanzo SL. Is lymphoplasmacytoid lymphoma/immunocytoma a distinct entity? A clinicopathologic study of 20 cases. *Am J Surg Pathol.* 2001;25:742-751.
3. Andriko JW, Morrison A, Colegial CH, Davis BJ. Rosai-Dorfman disease isolated to the central nervous system: a report of 11 cases. *Mod Pathol.* 2001;14:172-178.
4. Barekman CL, Aguilera NSI, Abbondanzo SL. Low-grade B-cell lymphoma with coexpression of both CD5 and CD10: a report of 3 cases. *Arch Pathol Lab Med.* 2001;125:951-953.
5. Cunningham RE, Abbondanzo SL, Chu W-S, Emory TS, Sobin LH, O'Leary TJ. Apoptosis, bcl-2 expression, and p53 expression in gastrointestinal stromal/smooth muscle tumors. *Appl Immunohistochem Mol Morphol.* 2001;9:19-23.
6. Neuhauser TS, Derringer GA, Thompson LDR, Fanburg-Smith JC, Aguilera NSI, Andriko J, Chu W-S, Abbondanzo SL. Splenic inflammatory myofibroblastic tumor (inflammatory pseudotumor): a clinicopathologic and immunophenotypic study of 12 cases. *Arch Pathol Lab Med.* 2001;125:379-385.
7. Aguilera NSI, Tomaszewski MM, Moad JC, Bauer FA, Taubenberger JK, Abbondanzo SL. Cutaneous follicle center lymphoma: a clinicopathologic study of 19 cases. *Mod Pathol.* 2001;14:828-835.
8. Moran CA, Suster S, Abbondanzo SL. Cutaneous B-cell lymphoma with signet ring-cell morphology: a clinicopathologic and immunohistochemical study of three cases. *Am J Dermatopathol.* 2001;23:181-84.
9. Chen J, Yanuck RR III, Abbondanzo SL, Chu W-S, Aguilera NSI. C-Kit (CD117) reactivity in extramedullary myeloid tumor/granulocytic sarcoma. *Arch Pathol Lab Med.*

2001;125:1448-1452.

10. Fisher SI, Nandedkar MA, Williams BH, Abbondanzo SL. Telehematopathology on a clinical consultative practice. *Hum Pathol.* 2001;32:1327-1333.
11. Lonergan GF, Cline DB, Abbondanzo SL. From the archives of the AFIP: Sick cell anemia. *Radiographics.* 2001;21:971-994.
12. McCall SA, Lichy JH, Bijwaard KE, Aguilera NS, Chu W-S, Taubenberger JK. Epstein-Barr virus detection in ductal carcinoma of the breast. *J Natl Cancer Inst.* 2001;93:148-150.
13. Bijwaard KE, Aguilera NS, Monczak Y, Trudel M, Taubenberger JK, Lichy JH. Quantitative real-time reverse transcription-PCR assay for cyclin D1 expression: utility in the diagnosis of mantle cell lymphoma. *Clin Chem.* 2001;47:195-201.
14. Gupta MK, Levin M, Aguilera NS, Pastores GM. Littoral cell angioma of the spleen in a patient with Gaucher disease. *Am J Hematol.* 2001;68:61.
15. Drabick JJ, Davis BJ, Byrd JC. Concurrent pernicious anemia and myelodysplastic syndrome. *Ann Hematol.* 2001;80:243.
16. Gaertner EM, Tsokos M, Derringer GA, Neuhauser TS, Arciero C, Andriko JW. Interdigitating dendritic cell sarcoma: a report of four cases and review of the literature. *Am J Clin Pathol.* 2001;115:589-597.

Abstracts

1. Chen J, Yanuck III RR, Abbondanzo SL, Chu W-S, Aguilera NS. C-Kit (C-19) immunoreactivity in granulocytic sarcoma (GS)/extramedullary myeloid tumors: a study of 32 cases. *Mod Pathol.* 2001;14:929A.
2. Chu W-S, Fisher S, Aguilera NS, Wei MQ, Abbondanzo SL. Transcription factor NF kappa B (NF-kb) expression in malignant lymphomas (ML): a novel differential marker for anaplastic large cell lymphoma (ALCL). *Mod Pathol.* 2001;14:937A.
3. Fisher SI, Abbondanzo SL, Thompson L, Aguilera NS, Chu W-S, Gulley ML, Nelson A. HIV-associated Hodgkin's disease: a histologic and immunophenotypic evaluation of 47 cases including antigenic expression of fascin, bcl-_{xl}, bcl-2, bcl-6 and CD138/syndecan-1. *Mod Pathol.* 2001;14:1083A.
4. Fisher SI, Nandedkar MA, Williams BH, Abbondanzo SL. Is telehematopathology an efficacious diagnostic modality for the early 21st century: one institution's experience with sixty consultative cases. *Mod Pathol.* 2001;14:1370A.
5. Zhao J, Wu R, Marquez A, Chu W-S, Abbondanzo SL, Shi ZR. Screening C-myc translocations in archival lymphomas by chromogenic in situ hybridization (CISH) with SPT C-myc probe. *J Mol Diagn.* 2001;3:H8.



Hernando Mena, COL, MC, USA
Chair
Date of Appointment — 6 March 1995



DEPARTMENT OF NEUROPATHOLOGY AND OPHTHALMIC PATHOLOGY

MISSION

The Department of Neuropathology and Ophthalmic Pathology supports the mission of the Armed Forces Institute of Pathology by providing diagnostic consultation and conducting research and educational programs related to diseases of the nervous, neuromuscular, and visual systems.

ORGANIZATION

The department is organized into 3 divisions.

1. Division of Neuropathology — James M. Henry, MD, Chief
2. Division of Neuromuscular Pathology - Kondi Wong, LtCol, USAF, MC, Chief
3. Division of Ophthalmic Pathology – Ian W. McLean, MD, Chief

STAFF—NEUROPATHOLOGY AND NEUROMUSCULAR PATHOLOGY

Medical:

- Hernando Mena, COL, MC, USA, Chair
- Glenn D. Sandberg, LTC, MC, USA, Assistant Chair
- (A) Elisabeth J. Rushing, COL, MC, USA, Staff Neuropathologist
- James M. Henry, MD, Chief, Division of Neuropathology, ARP
- Kondi Wong, LtCol, USAF, MC, Chief, Division of Neuromuscular Pathology
- (D) Guerard P. Grice, CDR, MC, USNR, Staff Neuropathologist
- (D) Brock J.K. Kaya, MD, Second-Year Resident
- John-Paul Bouffard, Maj, USAF, MC, Second-Year Resident
- (A) Lorna R. Cruz, MD, First-Year Resident, ARP

Scientific:

- Ives Valenzuela, Neuromyologist
- Tong Hui Mixon, Histotechnologist, ARP
- Muhammed Waheed, Histology Technician, ARP

Administrative:

- (A) Michael K. Cooper, HT, Administrative Officer, ARP
- (A) Erlinda T. Castro, Secretary, ARP
- (D) Daleta Johnson, Secretary

DIAGNOSTIC CONSULTATION

Division of Neuropathology:

<i>Cases</i>	<i>Completed</i>
Military	122
Army	(77)
Navy	(27)
Air Force	(18)
Federal	140
VA	(130)
USPHS	(0)
OFA	(10)
Civilian	604
Interdepartmental	130
Total	996

Division of Neuromuscular Pathology:

<i>Cases</i>	<i>Completed</i>
Military	114
Army	(54)
Navy	(38)
Air Force	(22)
Federal	
VA	(69)
USPHS	(0)
OFA	(34)
Civilian	457
Interdepartmental	6
Total	680

1,646 cases for consultation, education, and research required the following types of procedures and analyses:

- H&E stains – 10,622 slides
- Special stains – 13,139 slides
- Immunohistochemical staining – 3,170 slides
- Molecular biology examination – 5 cases
- Total recuts studied – 26,931
- Contributor slides studied – 7,503
- Electron microscopy blocks – 7,503
- Frozen sections – 718
- Frozen section slides – 8,589
- Neuromuscular cases – 680
- Toluidine blue slides for electron microscopy – 983

The Divisions of Neuropathology and Neuromuscular Pathology made no change in the contributor diagnosis in 401 cases, a minor change in diagnosis in 155 cases, and a major change in diagnosis in 35 cases. We received 889 cases with no contributor diagnosis. Cases submitted to Neuropathology and Neuromuscular Pathology include surgical specimens, whole brains obtained at autopsy, skeletal muscle biopsy specimens from cases of medical disorders of skeletal muscle, peripheral nerve biopsy specimens, and skin biopsy

specimens from suspected cases of storage disease. All cases accompanied by radiologic studies are reviewed in conference with the Neuroradiology staff of the Department of Radiologic Pathology. Whole brains are serially sectioned and studied according to standardized protocols for specific disorders. Skeletal muscle biopsy specimens are routinely examined using histochemical stains, enzyme histochemical methods, and, in selected cases, with immunohistochemistry and electron microscopy. Peripheral nerve and skin biopsy materials are evaluated with light and electron microscopy. The department also provides neuropathology review on selected cases from the Office of the Armed Forces Medical Examiner. Consultation is also provided for Veterans Affairs claim cases.

Impact:

The diagnostic expertise of the staff is constantly in demand for a variety of lectures at military and civilian hospitals, including Walter Reed Army Medical Center (WRAMC), the National Naval Medical Center (NNMC), and the Uniformed Services University of the Health Sciences (USUHS).

A close relationship has been established with the Department of Pathology and the Neurosurgery Service, WRAMC, for the interpretation of intraoperative consultations and tumor board cases.

This is the only military program fully accredited by the Accreditation Council for Graduate Medical Education in the military services for training of medical officers, including neurosurgeons and neurologists, in the field of neuropathology. Our trainees have consistently received high marks in exams leading to board certification, and many have achieved international recognition for their research endeavors in neuropathology. Military and civilian physicians in training in neurology, neurosurgery, and pathology from medical centers nationwide and abroad regularly attend the semiannual, intensive 3-month didactic course designed in support of preparation for specialty board certification.

Deployments 2001:

1. February 27-28, 2001, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
2. May 1-2, 2001, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
3. August 2, 2001 Washington, DC, Walter Reed Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
4. August 28-29, 2001, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.
5. September 11, 2001, Washington, DC, Walter Reed Army Medical Center, AFIP Liaison to WRAMC coordinating additional medical support in the aftermath of the terrorist attack on the Pentagon, GD Sandberg.
6. September 13-22, 2001, Dover Air Force Base, Del, Neuropathology support for the OAFME in processing the remains of the victims from the terrorist attack on the Pentagon, GD Sandberg.
7. November 6-7, 2001, Tacoma, Wash, Madigan Army Medical Center, Consultant, Department of Pathology, GD Sandberg.

EDUCATION

Presentations and Seminars: Neuropathology and Neuromuscular Pathology staff made 39 presentations at educational venues in 2001. Complete titles and dates are listed at the end of this report.

Clinicopathologic Conferences: Department staff participate in the following clinicopathologic conferences as part of our ongoing educational mission:

1. Department of Neuropathology, AFIP: Daily Signout Conference.
2. Department of Pathology, Walter Reed Army Medical Center: Weekly Intraoperative Diagnosis of Neurosurgical Specimens.
3. Department of Neuropathology, AFIP: Weekly Neuropathology/Neuroradiology Conference.
4. Department of Neuropathology, AFIP: Bimonthly Review of Muscle Biopsies with the Staff of the Connective Tissue Disease Section, NIH.
5. Walter Reed Army Medical Center: Monthly Neurosurgery Tumor Board.

6. Department of Neuropathology, AFIP: Journal Club, Monthly.

Courses: Members of the staff participated as faculty members in 4 AFIP-sponsored general pathology courses and in 2 non-AFIP courses.

1. January-March 2001: AFIP Intramural Neuropathology Course (15 attendees, 560 training days, 1,680 hours).
2. February 19-23, 2001: Bethesda, Md, 39th Annual Neuropathology Review (146 attendees, 730 training days, 4,526 hours).
3. April 24-29, 2001: Silver Spring, Md, 11th AFIP Annual Anatomic Pathology Review Course.
4. July-September 2001: AFIP Intramural Neuropathology Course (11 attendees, 384 training days, 1,152 hours).
5. November 11-16: San Francisco, Calif, American College of Rheumatology, Histologic Diagnosis of Muscle Disorders, Meet The Professor Workshops 1 and 2.

Trainees: The department is fully approved for residency training in neuropathology by the Residency Review Committee for Pathology of the Accreditation Council for Graduate Medical Education. In 2001, the department had 2 full-time residents, for a total of 500 training days.

RESEARCH

Publications: Neuropathology and Neuromuscular Pathology staff published 12 journal articles, 2 book chapters, 11 abstracts, and several other publications in 2001. Complete bibliographic information is listed at the end of this report.

OTHER ACCOMPLISHMENTS

Editorial Boards:

Annals of Diagnostic Pathology, H Mena

Committees:

H Mena

1. Registrar, Registry of Neuropathology, American Registry of Pathology
2. Member, Consultation Committee
3. Member, Oversight Committee for Continuing Medical Education
4. Member, Graduate Medical Education Committee

K Wong

1. Member, Institutional Animal Care and Use Committee
2. Member, Research Committee, ARP
3. Chair, Finance Committee, AFIP

GD Sandberg

1. Member, Pathology Information Management System Committee.
2. Member, Accessioning and Case Management Implementation Committee

Faculty Appointments:

1. University of Maryland Medical System, Baltimore, Md, Clinical Assistant Professor, Department of Pathology, H Mena
2. Walter Reed Army Medical Center, Washington, DC, Consultant in Neuropathology, H Mena
3. University of Louisville School of Medicine, Louisville, Ky, Clinical Professor of Pathology and Neurological Surgery, JM Henry
4. Walter Reed Army Medical Center, Washington, DC, Consultant in Neuropathology, GD Sandberg
5. Uniformed Services University of the Health Sciences, Bethesda, Md, Clinical Assistant Professor, Neurosciences Group, K Wong
6. Uniformed Services University of the Health Sciences, Bethesda, Md, Clinical Assistant Professor, Department of Pathology, K Wong

7. Georgetown University, Washington, DC, Adjunct Associate Professor, Department of Pathology, EJ Rushing
8. University of California, Berkeley and San Francisco, Calif, Teaching Faculty, Principles of Human Pathology, Joint Medical Program, K Wong

Official Trips:

1. February, May, August, November 2001, Neuropathology Consultant, Department of Pathology, Madigan Army Medical Center, Tacoma, Wash, G Sandberg (US Army).
2. March 2001, Guest Speaker, International Association of Pathology/US Canadian Association of Pathology Meeting, Atlanta, Ga, K Wong (AFIP)
3. June 2001, American Association of Neuropathologists Annual Meeting, Chicago, Ill, H Mena, GD Sandberg, J Henry, K Wong, G Grice, B Kaya, JP Bouffard (AFIP/ARP)
4. September 2001, Neuropathology support for the OAFME, Dover Air Force Base, DE, GD Sandberg
5. November 2001, Meet The Professor Workshops 1 and 2, American College of Rheumatology, Histologic Diagnosis of Muscle Disorders, K Wong, B Kaya (American College of Rheumatology)
6. November 2001, Member of Live Panel, TV Broadcast, FEMA Television Studio, Emmitsburg, Md, K Wong (AFIP)

Continuing Education: Staff members attended the following courses for training during 2001:

1. 39th Annual Neuropathology Review, AFIP Course, Bethesda, Md (ARP)
2. Developmental Neurobiology, American Association of Neuropathologists Special Course, 77th Annual Meeting, Chicago, Ill (AFIP/ARP)

Specialty Certification:

1. Guerard P. Grice, CDR, MC, USN, Neuropathology, American Board of Pathology, November 7, 2001
2. Mariarita Santi, MD, Neuropathology, American Board of Pathology, November 7, 2001
3. Brock J. Kaya, MD, Neuropathology, American Board of Pathology, November 7, 2001

Grant Submission:

September 2001: R21 NIH grant (Biotechnology): Ultrasound-Mediated Tissue Fixation and Processing, W-S Chu, K Wong.

Public Affairs Report:

TV broadcast: Federal Emergency Management Agency/United States Department of Agriculture, Live Satellite Broadcast, "New Variant Creutzfeldt-Jakob Disease" and Question and Answer Session, Live Panel, November 18-19, 2001, FEMA Television Studio, Emmitsburg, Md, 4 hours, K Wong

PRESENTATIONS

1. January 2001: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Congenital malformations of the central nervous system," H Mena
2. February 2001: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Lysosomal/peroxisomal disorders of the CNS," H Mena
3. February 2001: Bethesda, Md, AFIP 39th Annual Neuropathology Review, "Introduction to neuropathology," GD Sandberg
4. February 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg
5. February 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg
6. February 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "WHO 2000 classification of CNS tumors," GD Sandberg
7. February 2001: Bethesda, Md, AFIP 39th Annual Neuropathology Review, "Pediatric neuropathology," JM Henry
8. February 2001: Bethesda, Md, AFIP 39th Annual Neuropathology Review, "Embryonal,

- neuronal and mixed neuronal-glial neoplasms of the CNS," H Mena
9. March 2001: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Degenerative diseases of the CNS," H Mena
 10. March 2001: Atlanta, Ga, International Association of Pathology/US Canadian Association of Pathology, Binford-Dammin Lecture, "Mad cow disease and mechanisms of prion disorders," K Wong
 11. May 2001: Washington, DC, AFIP Professional Staff Conference, "The enigma of von Economo's encephalitis lethargica," JM Henry
 12. May 2001: Silver Spring, Md, AFIP 11th Annual Anatomic Pathology Review Course, "What's new in gliomas?" JM Henry
 13. May 2001: Washington, DC, George Washington University, Department of Neurosurgery, Special Lecture, "What's new in gliomas?" JM Henry
 14. May 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg
 15. May 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg
 16. May 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "WHO 2000 classification of sella region tumors," GD Sandberg
 17. May 2001: Silver Spring, Md, AFIP 11th Annual Anatomic Pathology Review Course, "Neurodegenerative diseases," EJ Rushing
 18. May 2001: Washington, DC, Georgetown University Medical Center, Sophomore Medical School Class, "Neurodegenerative diseases," EJ Rushing
 19. June 2001: Chicago, Ill, American Association of Neuropathologists 77th Annual Meeting, Platform Presentation, "Von Economo's encephalitis lethargica," JM Henry
 20. June 2001: Chicago, Ill, American Association of Neuropathologists 77th Annual Meeting, Platform Presentation, "Glial differentiation of foamy oligodendroglial cells and astrocytic abnormalities in childhood ataxia with diffuse cerebral hypomyelination," (CACH), K Wong
 21. June 2001: Chicago, Ill, American Association of Neuropathologists 77th Annual Meeting, Poster Presentation, "Myofibrillar myopathy with desmin-positive myofibrillary ovoids and central cores in two adult patients," JP Bouffard
 22. June 2001: Chicago, Ill, American Association of Neuropathologists 77th Annual Meeting, Poster Presentation, "Mesencephalic cryptococcal abscesses as an initial manifestation of the disease of AIDS," JP Bouffard
 23. June 2001: Chicago, Ill, American Association of Neuropathologists 77th Annual Meeting, Poster Presentation, "Neuropathogenic findings in Lowe syndrome: correlation with radiographic findings," B Kaya
 24. August 2001: Washington, DC, Walter Reed Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg
 25. August 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg
 26. August 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg
 27. August 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Infectious diseases of the CNS," GD Sandberg
 28. September 2001: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Degenerative diseases of the CNS," H Mena
 29. September 2001: Washington, DC, Georgetown University Medical Center, Department of Pathology, "Neuropathology unknown slide conference," EJ Rushing
 30. October 2001: Washington, DC, Georgetown University Medical Center, Department of Pathology; "Introduction to brain tumor pathology lecture I," EJ Rushing
 31. October 2001: Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Vascular diseases of the CNS," H Mena
 32. November 2001, Baltimore, Md, University of Maryland Medical System, Department of Neurosurgery, Neuropathology Course, "Bacterial infections of the CNS," H Mena

33. November 2001: Washington, DC, Georgetown University Medical Center, Department of Pathology: "Introduction to brain tumor pathology lecture II," EJ Rushing
34. November 2001: Washington, DC, Georgetown University Medical Center, Department of Pathology: "Neuropathology unknown slide conference," EJ Rushing
35. November 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Techniques of gross brain examination," GD Sandberg
36. November 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "Microscopic slide unknowns," GD Sandberg
37. November 2001: Tacoma, Wash, Madigan Army Medical Center, Department of Pathology, "General neuropathology," GD Sandberg.
38. December 2001: Washington, DC, Georgetown University Medical Center, Department of Pathology: "Neuropathology unknown slide conference," EJ Rushing
39. December 2001: Washington, DC Georgetown University Medical Center, Department of Pathology: "Infections of the CNS," EJ Rushing

PUBLICATIONS

Journal Articles

1. Gyure KA, Thompson LDR, Morrison AL. A clinicopathological study of 15 patients with neuroglial heterotopias and encephaloceles of the middle ear and mastoid region. *Laryngoscope*. 2001;110:1731-1735.
2. Acs G, Acs P, Beckwith SM, Pitts RL, Clements E, Wong K, Verma A. Erythropoietin and erythropoietin receptor expression in human breast cancer. *Cancer Res* 2001; 61:3561-3565.
3. Gyure KA, Durham R, Stewart WF, Smialek JE, Troncoso JC. Intraneuronal abeta-amyloid precedes development of amyloid plaques in Down syndrome. *Arch Pathol Lab Med*. 2001; 125:489-492.
4. Koeller KK, Henry JM. From the archives of the AFIP. Superficial gliomas: radiologic-pathologic correlation. Armed Forces Institute of Pathology. *Radiographics*. 2001;21:1533-1556.
5. McCall S, Henry JM, Reid AH, Taubenberger JK. Influenza RNA not detected in archival brain tissues from acute encephalitis lethargica cases or in postencephalitic Parkinson cases. *J Neuropathol Exp Neurol*. 2001;60:696-704.
6. Mena H, Morrison AL, Jones RV, Gyure KA. Central neurocytomas express photoreceptor differentiation. *Cancer*. 2001;91:36-143.
7. Mohan N, Edwards ET, Cupps TR, Oliverio PJ, Sandberg G, Crayton H, Richert JR, Siegel JN. Demyelination occurring during anti-tumor necrosis factor alpha therapy for inflammatory arthritides. *Arthritis Rheum*. 2001;44:2862-2869.
8. Reid AH, McCall S, Henry JM, Taubenberger JK. Experimenting on the past: the enigma of von Economo's encephalitis lethargica. *J Neuropathol Exp Neurol*. 2001;60:663-670.
9. Sandberg G, Stewart W, Smialek J, Troncoso JC. The prevalence of the neuropathological lesions of Alzheimer's disease is independent of race and gender. *Neurobiol Aging*. 2001;22:169-175.
10. Santi MR, Golden JA. Periventricular heterotopia may result from radial glial fiber disruption. *J Neuropathol Exp Neurol*. 2001;60:856-862.
11. Kokkinakis D, Watson ML, Honig LS, Rushing EJ, Mickey BE, Schold SC. Characterization of initiated cells in N-methylnitrosourea induced carcinogenesis of the central nervous system in the adult rat. *J Neurooncol*. 2001;99:112.
12. Zhu Y, Romero MI, Ghosh P, Ye Z, Charnay P, Rushing EJ, Marth JD, Parada LF. Ablation of NF1 function in neurons induces abnormal development of cerebral cortex. *Genes Dev*. 2001;15:859-876.

Abstracts

1. Bouffard J-P, Mena H, Troncoso J, Ripple M. Mesencephalic cryptococcal abscesses presenting with a parkinsonian syndrome as an initial manifestation of the disease of AIDS. *J Neuropathol Exp Neurol*. 2001;60:556.
2. Gyure KA, Morrison AL, Thompson LDR, Prayson RA. Cytokeratin subset markers in pituitary adenomas. *Mod Pathol*. 2001;14:208A.

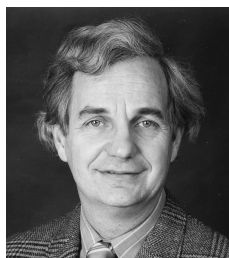
3. Henry JM, Reid AH, McCall S, Taubenberger JK. Von Economo's encephalitis lethargica. *J Neuropathol Exp Neurol*. 2001;60:509.
4. Kaya B, Gyure KA. Neuropathologic findings in Lowe syndrome: correlation with radiographic findings. *J Neuropathol Exp Neurol*. 2001;60:552.
5. Sandberg GD, Bouffard J-P, Washburn KR, Babcook MS, Wong K. Myofibrillar myopathy with desmin positive myofibrillar ovoids and central cores in two adult patients. *J Neuropathol Exp Neurol*. 2001;60:527.
6. Sidransky E, Schiffmann R, Tayebi N, Krasnewich D, Stubblefield BK, Vortmeyer AO, Wong K. Gaucher disease and parkinsonism: clinical, molecular and neuropathological findings. *Am J Hum Genet*. 2001;69:479.
7. Trupiano JK, Prayson RA, Gyure KA, Kleinschmidt-DeMasters BK, Morrison MD. *Mycobacterium avium intracellulare* complex (MAC) infection in the central nervous system (CNS). *Mod Pathol*. 2001;14:187A.
8. Wong K, Wenger JB, Kaya B, Bouffard J-P, Mena H, Schiffmann R. Glial differentiation of foamy oligodendroglial cells and astrocytic abnormalities in childhood ataxia with diffuse cerebral hypomyelination (CACH). *J Neuropathol Exp Neurol* 2001;60:515.
9. Ludwin SK, Henry JM, McFarland H. Vascular proliferation and angiogenesis in multiple sclerosis. *J Neuropathol Exp Neurol*. 2001;60:505.
10. Raghavan R, Taqvi R, Rushing EJ, Perry A, Vono MB, White CL III, Coimbra CL, Watson ML. Long-time survivors with glioblastoma multiforme. *J Neuropathol Exp Neurol*. 2001;60:533.
11. Vono MB, Watson ML, Rushing EJ. Molecular evidence for subtypes of "polymorphous oligodendrogliomas." *J Neuropathol Exp Neurol*. 2001;60:534.

Book Chapters

1. Rushing EJ, Burns DK. Central nervous system tumors. In: Hensen DE Albores-Saavedra J, eds. *Pathology of Incipient Neoplasia*. New York, NY: Oxford University Press; 2001:768-796.
2. Rushing EJ, Burns DK. Infections of the nervous system. In: Garcia JH, ed. *Neuroimaging Clinics of North America*. Vol II, No1. Philadelphia, Pa: WB Saunders Company; 2001:1-13.

Other Publications

1. Syllabus for 39th Annual Neuropathology Review
2. Handouts for lectures in one AFIP-sponsored course
3. Handouts for lectures in one course sponsored by the American College of Rheumatology
4. Check sample for Histopathology Quality Assessment Program, "Creutzfeldt-Jakob disease."



Ian W. McLean, MD
 Chief
 Date of Appointment — 21 November 1986

○ ○ ○
 ○ ○ ○
 ○ ○ ○

DIVISION OF OPHTHALMIC PATHOLOGY

STAFF—Ophthalmic Pathology

Medical:

Ian W. McLean, MD, Chief
 Ahmed A. Hidayat, MD, Assistant Chief
 Manuel E. Pontigo, MD, PhD, Fellow

Administrative:

Alonzo L. Ray, Jr, Secretary

DIAGNOSTIC CONSULTATION

Division of Ophthalmic Pathology:

<i>Cases</i>	<i>Completed</i>
Military	81
Army	(51)
Navy	(13)
Air Force	(17)
Federal	87
VA	(84)
OFA	(3)
Civilian	529
Interdepartmental	29
NFR	77
Total	803

803 cases for consultation, education, and research required the following types of procedures and analyses:

- H&E stains – 11,032
- Special stains – 3,156
- Immunohistochemical staining – 591
- Total recuts studied – 14,779

EDUCATION

Presentations and Seminars: Ophthalmic Pathology staff made 11 presentations at educational venues in 2001. Complete titles and dates are listed at the end of this report.

Clinicopathologic Conferences:

The division participates in the following clinicopathologic conferences as part of its ongoing educational mission:

1. Division of Ophthalmic Pathology, AFIP: Daily Signout Conference.
2. Division of Ophthalmic Pathology, AFIP: Weekly Thursday Conference.

3. Division of Ophthalmic Pathology, AFIP: Annual Staff Conference

Courses:

August 2001: AFIP Ophthalmic Pathology for Ophthalmologists Course.

Trainees: The Division of Ophthalmic Pathology is fully approved for residency training in ophthalmic pathology by the Residency Review Committee for Ophthalmology of the Accreditation Council for Graduate Medical Education. In 2001, the division had 20 residents, fellows, and medical students, for a total of 910 training days.

RESEARCH

Publications: Ophthalmic Pathology staff published 11 journal articles and 6 abstracts in 2001. Complete bibliographic information is listed at the end of this report.

OTHER ACCOMPLISHMENTS

Editorial Boards: Division staff reviewed 40 manuscripts in 2001.

1. *Saudi Ophthalmology Journal*, A Hidayat
2. *Annals of Diagnostic Pathology*, I McLean

Guest Editorial Board Member, *Investigative Ophthalmology and Visual Science*, I McLean

PRESENTATIONS

1. February 2001: Washington, DC, Armed Forces Institute of Pathology, "Myxomas of the ocular adnexa," A Hidayat
2. May 2001: Ft Lauderdale, Fla., Association for Research in Vision and Ophthalmology, "Epithelial metaplasia of corneal endothelium in forceps injury associated keratopathy," A Hidayat
3. May 2001 Ft Lauderdale, Fla, Association for Research in Vision and Ophthalmology, "Extranodal marginal zone B-cell lymphoma of the uvea," A Hidayat
4. June 2001: Zurich, Switzerland, Verhoff-European Societies Meeting, "Familial sinus histiocytosis of the orbit," A Hidayat
5. June 2001: Zurich, Switzerland, Verhoff-European Societies Meeting, "Astrocytic hamartoma: an unexpected finding in the eye of a giant panda," I McLean.
6. June 2001: Lieden, Netherlands, Uveal melanoma workshop, "Comparative genomic hybridization of uveal melanoma," I McLean
7. August 2001: Washington, DC, Armed Forces Institute of Pathology Course, "Intraocular lymphomas," A Hidayat
8. October 2001: Mansura, Egypt, Mansura University, "Conjunctival pigmentation by Kohl," A Hidayat
9. October 2001: Mansura, Egypt, Mansura University, "Orbital tumors," A Hidayat
10. October 2001: Mansoura, Egypt, Mansura University, "The histopathology of enteropion in trachomatous patients," A Hidayat
11. December 2001: Washington, DC, AFIP Professional Staff Meeting, "Uveal melanoma," IW McLean

PUBLICATIONS

Journal Articles

1. Loeffler KU, Sastry SM, McLean IW. Is age-related macular degeneration associated with pinguecula or scleral plaque formation? *Curr Eye Res.* 2001;23:33-37.
2. Moshari A, Bloom EE, McLean IW, Buckwalter NR. Ectopic chordoma with orbital invasion. *Am J Ophthalmol.* 2001;131:400-401.
3. Moshari A, Cheeseman EW, McLean IW. Totally necrotic choroidal and ciliary body melanomas: associations with prognosis, episcleritis, and scleritis. *Am J Ophthalmol.* 2001;131:232-236.
4. Moshari A, McLean IW, Dodds MT, Damiano RE, McEvoy PL. Chorioretinitis after keratitis caused by *Acanthamoeba*: case report and review of the literature. *Ophthalmology.* 2001;108:2232-2236.
5. Moshari A, McLean IW. Uveal melanoma: mean of the longest nucleoli measured on silver-stained sections. *Invest Ophthalmol Vis Sci* 2001;42:1160-1163.

6. Rao NA, Hidayat AA. Endogenous mycotic endophthalmitis: variations in clinical and histopathologic changes in candidiasis compared with aspergillosis. *Am J Ophthalmol.* 2001;132:244-251.
7. Ward TP, Hidayat AA, Laver NVM, Amacher AG III, Neafie RC, Simon DP, Cavallaro BE. A case of eyelid involvement in systemic loiasis. *Ophthalmic Practice.* 2001;19:74-76.
8. Al-Rajhi AA, Hidayat AA, Teichman KD, Riley F. Ocular argyrosis. *Ophthalmic Practice.* 2001;19:311-314.
9. Tsai JC, Sivak-Callcott JA, Haik BG, Zhang J, McLean IW. Latanoprost-induced iris heterochromia and open-angle glaucoma: a clinicopathologic report. *Glaucoma.* 2001;10:411-413.
10. Zimmerman LE. Norman Henry Ashton, CBE, DSC(Lond), FRCP, FRCS, FRCPATH, FRCOphth, FRS, KSTJ (1913-2000). *Arch Ophthalmol.* 2001;119:1229-1230.
11. Al-Qahtani JM, McLean IW, Weiblinger RP, Ediger MN. Preliminary in vitro study of the histological effects of low fluence 193-nm excimer laser irradiation of corneal tissue. *J Refract Surg.* 2001;17:105-109.

Abstracts

1. Correia CP, Figueiredo AM, Oliver KM, McLean IW, Burnier MN Jr. Co-expression of vimentin and cytokeratin in uveal melanoma. *Invest Ophthalmol Vis Sci.* 2001;42:S218. Abstract 1173-B486.
2. Coupland SE, Foss HD, Hidayat AA, Cockerham GC, Mummel M, Stein H. Extranodal marginal zone B-cell lymphomas of the uvea. *Invest Ophthalmol Vis Sci.* 2001;42:S504. Abstract 2722-B830.
3. Figueiredo AP, Correia CP, Oliver KM, McLean IW, Burnier MN JR. Actin immune-expression in choroidal malignant melanoma. *Invest Ophthalmol Vis Sci.* 2001;42:S218. Abstract 1172-B485.
4. Hidayat AA, Shetty RK, Varga JH, Stonecipher KG. Epithelial metaplasia of the corneal endothelium in forceps injury – associated keratopathy. *Invest Ophthalmol Vis Sci.* 2001;42:S278. Abstract 1506-B819.
5. Loeffler KU, McLean IW. Membrane patterns, factor VIII staining and prognosis in 100 cases of human uveal melanoma. *Invest Ophthalmol Vis Sci.* 2001;42:S216. Abstract 1162-B475.
6. Shetty RK, Moshari A, McLean IW. Evaluation of the immunohistochemical staining intensity of Melan-A and HMB-45 in malignant choroidal melanomas. *Invest Ophthalmol Vis Sci.* 2001;42:S216. Abstract 1163-B476.



William B. Ross, CAPT, MC, USN
Chair
Date of Appointment — March 1995

Wendy Clark, MSG, USA
Superintendent
Date of Appointment — November 1998



DEPARTMENT OF SCIENTIFIC LABORATORIES

MISSION

The Department of Scientific Laboratories provides technical, consultative, and scientific services to the departments of the Armed Forces Institute of Pathology, ultimately supporting the Institute's mission of consultation, education, and research. Services include basic and advanced histology techniques, scanning and transmission electron microscopy, and immunohistochemical tissue analyses. The department provides basic and advanced training in histology techniques to military and civilian personnel through the Tri-Service School of Histotechnology and the Annual Histopathology Techniques Seminar, respectively. All efforts are designed to ensure the highest medical and investigative science.

ORGANIZATION

The department consists of an administrative section and 4 components:

1. Histopathology Laboratories
2. Tri-Service School of Histotechnology
3. Electron Microscopy (SEM, TEM) Laboratories
4. Immunohistochemistry Laboratory

STAFF

Professional/Scientific:

(D) William B. Ross, CAPT, MC, USN, Chair
Lester Thompson, LCDR, MC, USN, Associate Chair

Administrative/Technical:

Arnicia E. Downing, Chief, Scientific Labs
Efrain Perez-Rosario, Chief, Electron Microscopy
Laboratory
(D) Debbie L. Robertson, Program Support Assistant
(A) Carlos Mena, Program Coordinator



Arnica E. Downing
Laboratory Chief
Date of Appointment—23 September 1991



HISTOPATHOLOGY LABORATORIES

MISSION

The Histopathology Laboratories provide histotechnical support and expertise to the pathology departments at the AFIP and training in histotechniques to visiting professionals and technologists. To insure that the laboratories are capable of fully meeting their mission, the staff from the College of American Pathologists are invited to inspect every aspect of the operation of the laboratories.

STAFF

Rossana Bailey, DAC, Histopathology Technician
 Timothy Barron, HM2, Histopathology Technician
 Betty Beal, VAMC, Histopathology Technician
 Mildred Benton, ARP, Histopathology Technician
 Freda Blake, VA-6, Histopathology Technician
 Romeo Boodhoo, HM3, Histopathology Technician
 Todd Brown, SGT, USA, Histopathology Technician
 (D) Jacqueline Burton, SSgt, USAF, Laboratory Technician
 Robert Calvo, HM2, Histopathology Technician
 Mel Castro, DAC, Histopathology Technician
 Karma DaCosta, HM1, USN, Histopathology Technician
 (A) Timothy Davidson, TSgt, Alt. NCOIC
 Mary Dyson, ARP, Histopathology Technician
 (A) Lawrence Faucette, HM1, Branch Chief
 (A) Denise Fowler, SSgt, Histopathology Technician
 Monte Grace, HM2, Histopathology Technician
 Zahaitu Harvey, ARP, Histopathology Technician
 Francine Hinchlerick, DAC, Histopathology Technician
 Shirley V. Horton, ARP, Histopathology Technician
 (A) Leroy Irby, HM2, Histopathology Technician
 Brian Johnson, SSgt, USAF, Histopathology Technician
 Ingrid Jones, DAC, Histopathology Technician
 (D) Clementine Kelson, DAC, Histopathology Technician
 Joseph Kemer, SPC, USA, Histopathology Technician
 Wanda King, ARP, Histopathology Technician
 Langston Lim, SSgt, USAF, Histopathology Technician
 Charles Lattany, SSgt, Superintendent
 (A) Sophea P. Lim, ARP, Histopathology Technician
 Debra A. McElroy, DAC, Branch Chief
 Warren McNeil, DAC, Histopathology Technician
 (A) Carlos Mena, ARP, Program Coordinator
 Marco Mendoza, HM3, Histopathology Technician
 Myra Miller, DAC, Histopathology Technician
 Barbara Norfleet, DAC, Histopathology Technician
 Verna Pinkett, ARP, Histopathology Technician
 Michael Proctor, DAC, Histopathology Technician
 Juanita Rogers, ARP, Histopathology Technician
 Joseph Rosamont, VA-11, Histopathology Technician
 Christian Sepulveda, TSgt, USAF, Histopathology Technician

Blair Slaughter, ARP, Histopathology Technician
 Ellen Slaughter, DAC, Histopathology Technician
 Blondell Smith, DAC, Histopathology Technician
 Paul Smith, ARP, Histopathology Technician
 Stacey Tamer, ARP, Histopathology Technician
 (A) Michael Taylor, SSgt, Histopathology Technician
 Michael Vick, HM2, USN, Histopathology Technician
 (A) Arti Walker, PFC, Histopathology Technician
 Jack B. Wenger, DAC, Branch Chief
 Joy Williams, MSgt, USAF, Histopathology Technician
 Julia Wilson, DAC, Program Director
 Robert Wilson, DAC, Histopathology Technician

DIAGNOSTIC CONSULTATION

The Histology Laboratories consist of a combined Specialty Laboratory (veterinary, ophthalmic, orthopedic, neuropathology), a Special Stains Laboratory, and 2 combined general histology laboratories (Consultative, and Research and Education). The laboratories are organized to allow a STAT laboratory to handle consultative cases and a Research and Education Laboratory to provide services for research and education projects. This organization has significantly reduced turn-around time and distributed the workload more equitably throughout the laboratories.

In 2001, 30,583 cases were completed, requiring the following procedures and special stains:

- Blocks cut: 72,325
- H&E stains: 130,065
- Special stains: 42,939
- Frozen sections H&E: 149
- Frozen stained: 447
- Plastic cut: 1,324
- Plastic section stained: 2,648
- Whole mounts stained: 1,065
- Whole mount: 355
- Immuno unstained: 95,908
- Unstained slides: 172,420
- Total Slides prepared: 445,996
- Specimens decal: 1,354
- Specimens x-ray: 614

Quality Assurance: Certification for the 2001 CAP Inspection was awarded to all of the laboratories in our department.

EDUCATION

Presentation and Courses: Laboratory staff presented 60 didactic hours to participants in the Tri-Service School of Histotechnology course. In addition, several staff members lectured at state and regional professional meetings. Division staff made presentations at Weekly Professional Staff Conference in 2001.

Training:

1. Visiting pathologists and technologists received over 2,400 hours of on-site training in a variety of laboratory techniques, including eye histotechnology, special staining methods for infectious organisms, and Warthin-Starry procedures for melanin and bacteria.
2. Orientation and advanced training were provided to 4 civilians and 25 incoming military personnel.

Educational Aids: Our laboratories prepared thousands of microslides for AFIP pathologists, consisting mainly of teaching and study sets to be used at professional meetings.

RESEARCH

Publications: Articles on modifications to histopathology laboratory procedures were submitted for publication in all editions of the *AFIP LETTER*.

Projects: Our laboratories provided technical support for all approved research projects. Cost estimate are now prepared based on the College of American Pathologists' workload unit costs,

which include technician time, materials, and equipment.

This year, several manufacturers were invited to demonstrate technical equipment that has significantly advanced histology microslide production, including robotic stainers and coverslippers, improved warming tables, and cryostats. These items were evaluated by department staff and were available for inspection and trial by AFIP departments.



Charles Lattany, III, SSgt, USAF
Course Superintendent
Date of Appointment—September 1996

Julia Wilson, BS, HT (ASCP)
Program Director
Date of Appointment—March 1997



TRI-SERVICE SCHOOL OF HISTOTECHNOLOGY

MISSION

The Tri-Service School of Histopathology provides formal training to military and civilian students in the technical operations of anatomic pathology, as applied to histopathology laboratory and postmortem procedures.

EDUCATION

The school convenes annually and consists of 180 training days. It includes instruction in the theory and application of histotechnology and practical training in processing, cutting, and staining of tissue specimens, and assists in postmortem examinations. The course is administered by the Department of Scientific Laboratories and is coordinated through the School of Health Care Science at Sheppard AFB in Texas and the Naval School of Health Sciences at the National Naval Medical Center, Bethesda, Maryland. The school is also affiliated with the Department of Anatomic Pathology at Walter Reed Army Medical Center and Malcom Grow Medical Center, Andrews AFB.

The Tri-Service School of Histotechnology was accredited in 1997 by the National Accrediting Agency of Clinical Laboratories Sciences (NAACLS), a nonprofit organization that independently accredits histotechnology instructional programs. NAACLS is sponsored by the American Society of Clinical Pathologists (ASCP) and the American Society for Clinical Laboratory Sciences (ASCLS). Participants include the National Society of Histotechnology (NSH) and the Association of Genetic Technology (AGT).

Graduates of the Tri-Service School of Histotechnology are awarded certificates and AFSC 4T032 (Air Force) and NEC 8503 (Navy) classification codes. The Army currently has no histotechnician career field classification. Graduates may apply to take the certification exam as histologic technicians through the American Society of Clinical Pathologists, HT (ASCP).

Number of Students Trained in 2001:	
Army	1
Navy	6
Air Force	4
Civilian	4
Blocks Cut	140
H&E Stains	219
Special Stains	350
Unstained.....	316
Controls	531
<hr/>	
Total:	1,416



Efrain Perez-Rosario
Chief
Date of Appointment – August 1991



ELECTRON MICROSCOPY LABORATORY

MISSION

The Electron Microscopy Laboratory provides technical and scientific services to the departments of the Armed Forces Institute of Pathology, supporting the professional staff in consultation, research, and education using advanced technology in transmission electron microscopy (TEM), scanning electron microscopy (SEM), and scanning transmission microscopy (STEM).

STAFF

Efrain Perez-Rosario, Branch Chief
Francine Hincherrick, Research Biologist
Joseph Rosamont, Histologist

DIAGNOSTIC CONSULTATION

The Electron Microscopy Laboratories have 2 high-resolution (ZEISS-10A) electron microscopes and a scanning transmission electron microscope with an x-ray analyzer. We also have a new scanning electron microscope (ZEISS DSM 960A) with energy-dispersive x-ray analyzer.

ELECTRON MICROSCOPY LABORATORY

Transmission Electron Microscopy

Cases Received	715
Cases Completed	715
Total Blocks Cut	3,225
Total Grids Cut	3,225
Total Pre and Post Slides Cut	3,225
Total Film Developed	3,991 negatives
Total Prints Made	20,680

EDUCATION

Laboratory staff trained 4 fellows in electron microscopy techniques, for a total of 160 trainee-days.



Lester Thompson, LCDR, MC, USN
 Division Chief
 Date of Appointment— March 1998



IMMUNOPATHOLOGY LABORATORY

MISSION

The Immunopathology Laboratory provides state-of-the-art immunohistochemical staining in support of diagnostic and prognostic markers in case consultation and Institute research. Our secondary mission is to develop advanced tissue diagnostic techniques.

STAFF

Administrative/Technical:

Gayle Andre, DAC, Branch Chief
 Barbara Norfleet, DAC, Lead Technician
 (A) Leroy Irby, HM2, Histopathology Technician
 (A) Lawrence Faucette, HM1, Histopathology Technician
 Wanda King, ARP, Histopathology Technician
 Stacey Tamer, ARP, Histopathology Technician
 Juanita Rogers, ARP, Histopathology Technician
 Todd Brown, SSgt, Histopathology Technician

WORKLOAD COMPLETED – 2001

Consultation cases	10,568
Education cases	189
Research cases	439
<hr/>	
Total	11,196
Consultation Slides	70,035
Education Slides	472
Research Slides	3,049
Control Slides	17,763
<hr/>	
Total	91,319

The laboratory staff developed alternate methods to increase turnaround time and utilize the automated immunostainers. We also developed the following new immunohistochemical assays:

1. Melan A
2. Tyrosinase
3. CD10
4. Calretinin
5. CK5/6
6. CD4
7. CD7
8. CD8
9. BCL1
10. Inhibin

EDUCATION

Division staff provided instruction in testing methodologies to outside laboratories and numerous interpretive consultations to the AFIP pathologists.

1. Malcolm Grove – 1 Case, 6 slides
2. Bethesda Hospital – 2 Cases, 6 slides
3. Walter Reed Army Medical Center – 810 Cases, 3,099 slides

GROUP 4

ENVIRONMENTAL MEDICINE

ENVIRONMENTAL & TOXICOLOGIC
PATHOLOGY

INFECTIOUS & PARASITIC DISEASES
PATHOLOGY

RADIOLOGIC PATHOLOGY

VETERINARY PATHOLOGY





Florabel G. Mullick, MD, ScD, SES
Chair
Date of Appointment—27 June 1996



DEPARTMENT OF ENVIRONMENTAL AND TOXICOLOGIC PATHOLOGY

MISSION

The Department of Environmental and Toxicologic Pathology conducts consultation, education, and research in environmental, drug-induced, and radiation pathology, and in the development, implementation, and application of toxicological techniques (biochemical, physical, and chemical) to analyze tissues and to determine causes of injury to human and other animal tissues.

ORGANIZATION

The department is organized into 5 divisions, a branch for the coordination of educational and research activities, a branch dedicated to consultation and research on mutagen and radiation pathology, and the Office of the Chair. The organizational units and chiefs are listed below:

Division of Biochemical Pathology — William N. Fishbein, MD, PhD, Chief

Division of Biophysical Toxicology — José A. Centeno, PhD, Chief

Division of Chemical Pathology — Frank B. Johnson, MD, Chief

Division of Environmental Pathology — Michael R. Lewin-Smith, MD, Chief

Mutagen and Radiation Pathology Branch — David B. Busch, MD, PhD, Chief

Division of Environmental Toxicology — Victor F. Kalasinsky, PhD, Chief

STAFF—OFFICE OF THE CHAIR

Medical:

Florabel G. Mullick, MD, ScD, SES, Chair

Elena R. Ladich, MD, Nelson S. Irey Environmental Fellow, ARP

Scientific:

José A. Centeno, PhD, Chief, Education and Research Programs Branch

Norbert P. Page, DVM, MS, Administrator (INTOX) and Consultant in Toxicology, ARP

Administrative:

Kim Knight, Administrative Officer, ARP

Ana Erica Revelo, Administrative Assistant, ARP

DATABASES AND SPECIAL COLLECTIONS

The department continued development of the International Data Center for Toxic Lesions (INTOX) in humans and animals, composed of the following databases:

- Tissue Reactions to Drugs
- Breast Explants and Bioimplantable Materials
- Environmental Toxins
- International Tissue and Tumor Repository on Chronic Arseniasis
- Kuwait/Persian Gulf Database

- Former Prisoners of War
- Radiation Database
- Agent Orange
- Medical Geology

DIAGNOSTIC CONSULTATION

The department received a total of 4,841 new consultation cases in 2001, and consulted on 82 intramural cases. See division reports for details.

Quality Assurance:

The department subscribes to several proficiency test programs of the College of American Pathologists:

- Division of Biophysical Toxicology: 3 proficiency tests
- Division of Environmental Toxicology: 1 proficiency test

As part of the AFIP's Quality Assurance Program, the Division of Environmental Pathology reviewed 372 autopsy, surgical, and cytology cases in 2001 (Dr. Michael R. Lewin-Smith and Dr. Charles Specht). In addition, the Division of Environmental Toxicology (Dr. Victor Kalasinsky) reviewed 76 cases as part of the Quality Assurance Program.

EDUCATION

Presentations and Seminars: Department personnel made 19 presentations at professional meetings and invited seminars. See division reports for complete lists of titles and dates.

Courses: The department organized 3 courses ("Metals, Health and the Environment"), 4 workshops, and 1 course in collaboration with the US Geological Survey. These courses and workshops were attended by a total of 375 attendees, for a total of over 2,180 man-hours.

RESEARCH

Publications: Department staff published 4 journal articles, 4 book chapters, 1 Letter to the Editor, and 11 abstracts in 2001. See division reports for complete references.



William N. Fishbein, MD, PhD
Chief
Date of Appointment—September 1965



DIVISION OF BIOCHEMICAL PATHOLOGY

MISSION

The Division of Biochemistry provides consultation, education, and research in biochemical and molecular pathology and environmental toxicology, with particular emphasis on genetic influences and interactions.

STAFF

Medical:

William N. Fishbein, MD, PhD

Scientific:

Chemist— vacant

Microbiologist—vacant
Natasha Merezhinskaya, PhD, Research Biologist

DIAGNOSTIC CONSULTATION

<i>Cases</i> _____	<i>Completed</i>
Military	0
Federal	0
Civilian	0
Interdepartmental.....	0

Consults involve differential diagnosis of suspected metabolic or inherited disease, but have not been performed in the past 2 years due to retirement of 2 staff scientists, who have not been replaced.

Specialized Consultative Capabilities: The division provides a number of specific assays, rarely available elsewhere, including:

1. Lactate/Ammonia Dynamometer Exercise Test to evaluate muscle strength and fatigability, and several potential contributory enzyme defects when performance is subnormal. Subjects: inductees with inadequate training performance, muscle pain, etc.
2. Muscle Carnitine Palmityl (and Acetyl) Transferase Assays to rule out/in deficiency of this enzyme, a rare but important cause of poor performance or attacks of rhabdomyolysis. Subjects: as above.
3. Enzymatic trienzyme assays in frozen muscle biopsies of adenylate deaminase and kinase, and creatine kinase for the definitive diagnosis of myoadenylate deaminase deficiency (mADD). Subjects: suspected cases; deteriorating athletic performance, etc.
4. Enzymatic stain for mADD. This procedure was developed in our laboratory and is now performed in the AFIP muscle lab and around the world to screen for mADD. Subjects: routine screening for patients undergoing frozen muscle biopsy for diagnosis.
5. PCR assay of fresh or frozen blood for the major paired mutation in the AMPD1 gene. This permits the diagnosis of mADD or its carrier state without recourse to muscle biopsy. Subjects: as in 3 above.
6. Localization of the 3 major lactate transporters (MCT1,2,4) in frozen muscle biopsies. Still in the research phase, employing fluorescence microscopy, this procedure will eventually be adapted to light microscopy for wider use, if it proves to be a worthwhile addition to the diagnosis/exclusion of minimal denervation or other early-stage muscle disease.
7. Chromosome 7 Inversion Frequency assay to assess genomic instability in environmentally exposed and/or genetically susceptible cohorts (or individuals). Subjects: Gulf War veterans; autoimmune disease; arsenic or heavy-metal exposure, etc.

EDUCATION

Presentations and Seminars: Division staff made 2 presentations at meetings and conferences in 2001, representing over 55 man-hours. Dates and titles are listed at the end of this report.

Trainees: The division provides informal training to junior fellows, visiting scientists, student trainees, and staff members undertaking or analyzing experimental research involving molecular biology, spectrophotometry, high-performance liquid chromatography, enzyme stains and assays, electrophoresis, and ultracentrifugation.

RESEARCH

Publications: Division staff published 3 book chapters and 1 abstract in 2001. Full references are given at the end of this report.

Projects: The division pursued 4 major research projects in 2001:

1. Mutations in the Human MonoCarboxylate Transporter
2. Assessment of Genomic Instability via Chromosome 7 inversions
3. Presence and Localization of the Lactate Transporter
4. Presence and Quantitation of Lactate/Pyruvate Transporters in Human Tissues

OTHER ACCOMPLISHMENTS

Manuscripts Reviewed:

1. *Muscle and Nerve* (1)
2. *Analytical Biochemistry* (1)
3. *Annals of Neurology* (1)

Committees (Extramural):

WN Fishbein:

Committee member of NASA Workshops I-VI for Mars Sample Return Handling Protocols 2000-2001.

Editorial Boards:

WN Fishbein:

Associate Editor, *Journal of Biomedicine and Biotechnology*, 2000-2001

Official Trip:

April 2001, Experimental Biology International Meeting, Orlando—WN Fishbein

PRESENTATIONS

1. April 2001: Orlando, Fla, Experimental Biology International Meeting, "Relative distribution of 3 lactate transporters in frozen human tissues and their localization in skeletal muscle." WN Fishbein
2. May 2001: Washington, DC, AFIP Staff Conference, 1 hr lecture, "New insights into muscle microanatomy and function arising from the study of lactate transporters." WN Fishbein

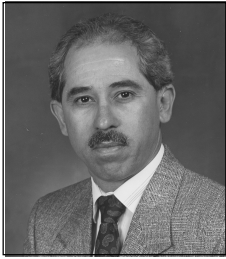
PUBLICATIONS

Book Chapters

1. Fishbein WN. Adenylate deaminase. In: Creighton T, ed. *Encyclopedia of Molecular Medicine*. Vol 1. New York, NY: John Wiley & Sons; 2001:73-76.
2. Fishbein WN. Myoadenylate deaminase, In: Creighton T, ed. *Encyclopedia of Molecular Medicine*. Vol 3. New York, NY: John Wiley & Sons; 2001:2187-2190.
3. Merezhinskaya N, Fishbein WN. Monocarboxylate transporters. In: Creighton T, ed. *Encyclopedia of Molecular Medicine*. Vol 3. New York, NY: John Wiley & Sons; 2001: 2119-2123.

Abstract

Fishbein, WN, N Merezhinskaya, JW Foellmer. Relative distribution of 3 lactate transporters in frozen human tissues and their localization in skeletal muscle. *FASEB J*. 2001;15:A385.



José A. Centeno, PhD
Chief
Date of Appointment—October 2001



DIVISION OF BIOPHYSICAL TOXICOLOGY

MISSION

The Division of Biophysical Toxicology conducts consultation, education, and research in environmental toxicology, health effects, and analysis of trace elements, toxic metals, and minerals. It develops chemical and biophysical techniques for the characterization of these materials in human and other animal tissues, with particular emphasis on elemental analysis and chemical/toxicological speciation.

STAFF

Scientific:

- José A. Centeno, PhD, Chief
- LT John W. Ejnik, USN, PhD, Senior Staff Scientist (Biochemist)
- Norbert Page, DVM, MS, Administrator and Consultant in Toxicology, ARP
- (A) CPT Ken Capps, USA, PhD, Clinical Research Associate
- (A) Susan Maharaj, PhD, Jackson Foundation Postdoctoral Fellow
- (A) Jessica Caplan, BS, Environmental Chemistry Technician
- (A) Mariam Serra, BS, Research Assistant (Biology)
- (A,D) Adeyinka Fabikun, Laboratory Technician

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	42
Army	(28)
Navy	(10)
Air Force.....	(4)
Federal	7
VA	(7)
USPHS	(0)
OFA	(0)
Civilian	22
Interdepartmental	19
Total	90

The above cases were studied employing the following techniques:

- Scanning electron microscopy with energy dispersive x-ray microanalysis (2 cases)
- Raman microprobe analysis (2 cases)
- Infrared microspectroscopy analysis (2 cases)
- Microwave digestion (82 cases)
- Elemental analysis by ICP and graphite furnace atomic absorption (80 cases)
- Speciation analysis by ICP-MS (1 case)

Impact:

1. The Division of Biophysical Toxicology is conducting a program on the archiving,

consultation, and biophysical studies of silicone breast explants and bioimplantable materials. A database is being developed that was initially supported by the American Registry of Pathology. It now receives cases from international contributors and the FDA, and is currently composed of over 250 cases containing tissue and explant materials associated with biomedical devices.

2. The division maintains a collection on Bioimplantable Materials Database. This database has an extensive collection of published literature, CDs, and a list of patents for materials used in the manufacture of silicone breast implants and other biomedical devices.
3. The division has developed and maintains the International Tissue and Tumor Repository for Chronic Arseniasis, with the partial support of three other US Federal agencies (US Environmental Protection Agency, National Institute of Environmental Health Sciences, and the National Cancer Institute). This repository continued to serve as a centralized facility for collecting, archiving, and studying tissue specimens from populations exposed to arsenic. In 2001, the repository consisted of 169 clinical cases submitted to the AFIP for consultation, 10 clinical cases (with paraffin blocks and slides) of persons chronically exposed to arsenic in Mexico, and 1,668 placental and clinical samples from Chile on which arsenic speciation analysis has been conducted.
4. The division has received approval from the American Registry of Pathology to establish a Registry on Medical Geology. This registry is aimed at the study of geological (minerals, trace elements) and environmental factors and their distribution on the development of health problems in man and other animals. Health problems associated with exposure to lead, mercury, fluoride, cadmium, arsenic, and other toxic metals are been studied.
5. Inductively coupled plasma with mass spectrometry capabilities and scanning electron microscopy with energy dispersive x-ray microanalysis were used to characterize tissues from patients exposed to depleted uranium fragments.
6. The division used electron paramagnetic spin labeling to measure alterations by chemical and biological agents in the membrane-bound insulin receptor proteins of human red blood cells (RBCs). This technique is a useful alternative method for assessing exposure doses of weapons of mass destruction.
7. In collaboration with the Food and Drug Administration and the Centers for Disease Control, division staff conducted elemental analyses and infrared microspectroscopy to characterize residues from dialysis systems.

Deployments:

JA Centeno:

1. February 8, 2001: Armed Forces Radiobiology Research Institute, Strategy Meeting on the Medical Response to Depleted Uranium Exposures, Bethesda, Md.
2. September 10, 2001: Navy Occupational Lung Disease Assessment Program, Uniformed Services University of the Health Sciences, Bethesda, Md.
3. Monthly meetings of the US EPA-Interagency Testing Committee (TOSCA), Washington, DC.

Quality Assurance:

1. The division successfully participated in 3 proficiency testing programs from the College of American Pathologists;
2. The division successfully completed the College of American Pathologists laboratory inspection on October 30, 2001.
3. The division conducted toxic metals quality assurance analyses of water in support of the quality assurance program for the AFIP DLAM facilities and the AFIP Safety Office.

EDUCATION

Presentations and Seminars: Members of the division presented 7 invited lectures, representing over 430 man-hours. Dates and titles are listed at the end of this report.

Courses, Workshops, and/or Seminars: In collaboration with the Education and Research Programs Branch, division staff organized 3 AFIP courses and 4 workshops, and gave a total of 42 lectures. These activities had a total of 375 attendees, representing ~ 2,180 man-hours. The following AFIP courses and environmental pathology workshops were offered in 2001:

1. "Metals, Health and the Environment," University of Zambia, Lusaka, Zambia. June 26-29, 2001 – JA Centeno

2. "Trace Elements and Human Health Issues," University of Witwatersrand, Johannesburg, South Africa. July 3-4, 2001 – JA Centeno
3. "Metals, Health and the Environment: The Venezuela Experience," Geological Survey of Venezuela, Caracas, Venezuela. July 25-27, 2001 – JA Centeno
4. "Effects of Mining: Environmental, Human Health and Ecological Risk Analysis," in collaboration with the US Geological Survey and the Argentine Geological Survey, Buenos Aires, Argentina. September 10-14, 2001—JA Centeno
5. 1-Day Invited Workshop on "Environmental Toxicology and Pathology: Trace Elements and Human Health," Canterbury Health Laboratories, Christchurch, New Zealand. November 26, 2001—JA Centeno
6. 1-Day Invited Workshop on "Environmental Toxicology and Pathology: An Overview of Analytical Methods on Trace Element Research," Canterbury Health Laboratories, Christchurch, New Zealand. November 27, 2001—JA Centeno
7. 2-Day Invited Workshop on "Metals, Health and the Environment: The New Zealand Experience," University of Canterbury, Christchurch, New Zealand. November 28-29, 2001 – JA Centeno
8. 1-Day Invited Workshop on "Environmental Toxicology and Pathology: Exposure to Toxic Trace Elements," University of Otago, Wellington School of Medicine and Ecology Health Center, Wellington, New Zealand. December 4, 2001 – JA Centeno

Trainees: During 2001, the Division of Biophysical Toxicology provided training to:

1. 1 postdoctoral fellow from the Uniformed Services University of the Health Sciences, who was trained in environmental and biophysical toxicology methods.
2. 1 summer student from the AFIP SEAP High School Program, who was trained in analytical methods of trace element analysis.

RESEARCH

Publications: Division staff published 1 journal article, 1 Letter to the Editor, and 4 abstracts in national and international scientific conferences. Complete references to these publications are listed at the end of this report.

Projects: The division conducted and/or collaborated on the following AFIP approved research projects:

Principal Investigator: JA Centeno

1. Histopathologic and Laser Raman Microprobe Analysis of Regional Lymph Nodes from Patients with Silicone Breast Implants.
2. Development of the International Tissue and Tumor Repository for Chronic Arseniasis.
3. EPR Spin Labeling Measurements of Nuclear, Chemical, and Biological Agent-Induced Alterations of the Insulin Receptor in Red Blood Cell Membranes: A Possible Biomarker for Dose Assessment.
4. Prospective Clinical and Laboratory Evaluation of Patients with Silicone Breast Implants: Determination of Baseline Silicon Levels (*completed and closed in 2001*).
5. Pathological and Biophysical Effects of Implanted Breast Prostheses (*completed and closed in 2001*).
6. Analysis and Speciation of Toxic Trace Elements in Body Fluids and Environmental Samples (*completed and closed in 2001*).

Principal Investigator: LT John W. Ejniak

In Vivo Studies of the Comparison of Biokinetics between Implanted Tungsten and Depleted Uranium in Rats: A Pilot Study.

Principal Investigator: S Maharaj

Platinum Concentration and Speciation in Silicone Breast Explants and Corresponding Connective Tissues by Inductively Coupled Plasma-Mass Spectrometry and Laser Raman Microscopy.

Research Projects in Collaboration with Other Divisions within the Department:

The Anatomic Pathology of Former Prisoners of War - In collaboration with Division of Environmental Pathology.

Research Projects in Collaboration with National and International Organizations:

1. Effects of Low and Ultra-Low Doses of Cadmium in RWPE-1 Prostate Cells – WB Jonas, USUHS.
2. Complex Homeopathy Drug Development in Neurodegenerative Diseases – WB Jonas, USUHS.
3. Chronic Arsenic Exposure from Drinking Water and Reproductive Effects – C Hopenhayn-Rich, University of Kentucky; H Gibb, USEPA
4. The Sarcoidosis and Occupational Lung Disease Assessment Program – ED Gorham, Naval Health Research Center, San Diego
5. Dietary and Occupational Risk Factors for Prostate Disease in Different Ethnic Groups in New Zealand – Phil Weinstein, Wellington School of Medicine, New Zealand

Non AFIP/ARP Research Funds Received: In 2001, non-AFIP research funds were received as part of interagency agreements developed through collaborative projects including:

1. IAG with the FDA Division of Mechanics and Material Sciences - \$10,000
2. IAG with the NCI, US-EPA, and NIEHS - \$150,000
3. Contract funds from the US-EPA to support research on health effects of arsenic - \$45,000
4. IAG funds from the Naval Health Research Center in support of an Occupational Health Study on Sarcoidosis - \$85,000

In collaboration with the Veteran Affairs Center of Baltimore, the division is participating in a research program to study low levels of depleted uranium in tissues and body fluids from exposed service personnel.

OTHER ACCOMPLISHMENTS

Collaborators: Consultation, education, and research projects on environmental toxicology, trace elements and metal toxicology, and characterization of foreign materials in tissues have been developed in collaboration with the following organizations and scientists:

Military:

1. Uniformed Services University of the Health Sciences, Bethesda, Md – Dr. Wayne B Jonas.
2. Uniformed Services University of the Health Sciences, Dept. of Pediatric Medicine, Bethesda, Md – Dr. Jeffrey Longacre
3. Walter Reed Army Medical Center, Plastic Surgery Clinic Services - Dr. Daniel Jorgenson
4. US Naval Health Research Center, San Diego, Calif – Dr. Edward Gorham and Dr. Frank Garland
5. Anthrax Vaccine Immunization Program Agency, Washington, DC – LTC John D. Grabenstein
6. Baltimore Veterans Affairs Medical Center – Dr. Melissa McDiarmid

Federal Government Organizations:

1. Centers for Disease Control and Prevention, National Vaccine Program Office – Dr. Marty Myers, Director
2. National Cancer Institute, Chemical and Physical Carcinogenesis Branch – Dr. David Longfellow/Dr. Ken Cantor
3. National Institute of Environmental Health Sciences, Research Triangle Park – Dr. Claudia Thompson
4. US Geological Survey, Reston, Va – Dr. Robert Finkelman, Dr. Geoffrey Plumlee.
5. US Environmental Protection Agency, Washington, DC - Dr. Herman Gibb
6. Food and Drug Administration, Center for Devices and Radiological Health, Division of Mechanics and Materials Science – Dr. William F. Regnault

Civilian Organizations:

1. University of Kentucky, Department of Preventive Medicine – Dr. Claudia Hopenhayn-Rich.
2. Jackson State University, Jackson, Mississippi – Dr. Paul Tchounwou and Dr. Abdul Mohamed
3. Ana G. Mendez University System of Puerto Rico – Dr. Federico Matheu
4. Michigan State University, East Lansing, Mich – Dr. Karen Chou

International Collaborators:

1. University of Otago, Wellington School of Medicine, Wellington, New Zealand – Dr. Philip Weinstein – Research collaboration on cadmium and prostate cancer.
2. Geological Survey of Sweden – Dr. Olle Selinus – Research collaboration on Medical Geology.
3. Institute Nazionale Superiore di Sanita, Rome, Italy – Prof. Dr. Sergio Caroli – Research collaboration on speciation of trace elements.
4. National Taiwan University Hospital, Taipei, Taiwan – Prof. Dr. Chin-Hsiao Tseng – Research collaboration on arsenic health effects.
5. Academia Sinica and Institute of Environmental Geochemistry, China – Prof. Dr. Baoshan Zheng. Research collaboration on medical geology and health effects of toxic trace elements.

Awards and Certificates:

JA Centeno

1. *Certificate of Training*, Supervisor's Symposium – March 19-23, 2001.
2. *Certificate of Appreciation*, Servicio Geologico Minero Argentino (Geological Survey of Argentina) – September 14, 2001.

Committees (Extramural):

Offices and Committee Memberships in National and International Societies:

JA Centeno

1. *Member*, TOSCA Interagency Testing Committee, US EPA, Washington, DC (1998 – Present).
2. *Member*, International Working Group on Medical Geology (2000-Present).
3. *Member*, External Advisory Committee-National Institutes of Health Research Centers for Minority Institutions, Jackson State University, Jackson, Mississippi (1997-Present).
4. *Member*, US Presidential Advisory Board for Sciences, Math, and Engineering, Ana G. Mendez University System of Puerto Rico, San Juan, Puerto Rico (1995-Present).
5. *Member*, External Advisory Committee, National Science Foundation –STARGE Program at Jackson State University, Jackson, Mississippi (1999 – Present).
6. *Member*, External Advisory Board, National Science Foundation-Minority Institutions of Excellence Program, Metropolitan University, San Juan, PR (1999-Present).
7. *Member*, International Scientific Committee, International Conference on Trace Element Speciation in Biomedical, Nutritional, and Environmental Sciences, GSF, Germany (2000-Present).
8. *Member*, International Scientific Committee, 7th International Symposium on Metal Ions in Biology and Medicine (2001).

Editorial Boards:

JA Centeno

1. *Toxicologic Pathology*
2. *Biological Trace Element Research*

Manuscripts Reviewed:

1. *Biological Trace Element Research* (1) – JA Centeno
2. *Frezenius Journal of Analytical Chemistry* (1) – JA Centeno
3. *Archives of Pathology and Laboratory Medicine* (1) – JA Centeno

Faculty Appointments:

1. Adjunct Professor, Universidad Metropolitana of Puerto Rico – JA Centeno
2. Adjunct Professor, University of Puerto Rico – Mayaguez – JA Centeno

New Missions:

1. The division is working in collaboration with the Naval Health Research Center on a federally mandated program titled “Sarcoidosis and Occupational Lung Disease Assessment Program.”
2. In collaboration with the VA-Baltimore Center, staff from the division are working on the development of analytical procedures for the analysis of depleted uranium in tissues and

body fluids.

Official Trips:

JA Centeno

1. March 16, 2001: Institute for Environmental Toxicology and Institute of International Health, Michigan State University, East Lansing, Mich.
2. May 7-10, 2001: Second International Conference on Trace Element Speciation in Bio-medical, Nutritional, and Environmental Sciences, Munich, Germany.
3. May 15, 2001: Institute Nazionale Superiore di Sanita, Ministero di Sanita, Rome, Italy.
4. May 16-19, 2001: First International FESTEM Symposium on Trace Elements and Minerals in Medicine and Biology, Venice, Italy.
5. June 26-29, 2001: AFIP Course, "Metals, Health and the Environment" and Second Medical Geology Conference for East and Southern African Countries, University of Lusaka, Zambia.
6. July 3-4, 2001: Workshop on Environmental and Health Impacts of Trace Elements from Coal and Minerals. University of Witwatersrand, Johannesburg, South Africa.
7. July 25-27, 2001: AFIP Course "Metals, Health and the Environment," Caracas, Venezuela.
8. September 2-5, 2001: Third International Meeting on Molecular Mechanisms of Metal Toxicity and Carcinogenicity, Sardegna, Italy.
9. September 11-14, 2001: AFIP/USGS Course "Environmental Health and Ecological Risk Analysis," Buenos Aires, Argentina.
10. November 26-29, 2001: Two AFIP Workshops on Environmental Toxicology and Pathology, Christchurch, New Zealand.
11. December 4, 2001: 1-Day Invited AFIP Workshop on Environmental Toxicology and Pathology: Exposure to Toxic Trace Elements, University of Otago, Wellington School of Medicine and Ecology Health Center, Wellington, New Zealand.

Continuing Education:

March 19-23, 2001: Walter Reed Army Medical Center, Washington, DC,
Supervisor's Symposium Training – JA Centeno

PRESENTATIONS:

JA Centeno

1. March 16, 2001: Institute for Environmental Toxicology, Michigan State University, East Lansing, Mich. "Emerging Research Trends in Environmental Pathology: Medical Geology as a New Interdisciplinary Field."
2. March 16, 2001: Institute of International Health. Michigan State University, East Lansing, Mich. "Health Effects of Chronic Exposure to Arsenic by Residential Coal Combustion in Guizhou Province, China."
3. May 7-10, 2001: Second International Conference on Trace Element Speciation in Bio-medical, Nutritional and Environmental Sciences, Munich, Germany. "Chronic Arsenic Poisoning: Epidemiology, Natural History, and Chemical Speciation."
4. May 15, 2001: Institute Nazionale Superiore di Sanita, Ministero di Sanita, Rome, Italy. "Emerging Topics in Environmental Pathology: Medical Geology and the Role of Trace Elements on the Development of Human Diseases."
5. May 16-19, 2001: First International FESTEM Symposium on Trace Elements and Minerals in Medicine and Biology, Venice, Italy. "Health Effects of Chronic Arsenic Poisoning from Residential Coal Combustion in China."
6. June 26-29, 2001: University of Zambia, Lusaka, Zambia. Second Medical Geology Conference of East and Southern African Countries. Course on "Metals, Health and the Environment." 7 lectures.
7. July 3-4, 2001: University of Witwatersrand, Johannesburg, South Africa. Symposium on Coal Minerals, Trace Elements and Their Impact on Environment and Health. 4 lectures on "Environmental Toxicology, Pathology and Analysis of Trace Elements."
8. July 25-27, 2001: Venezuelan Geological and Mining Survey (INGEOMIN). Workshop on "Impact of Toxic Trace Elements in Environmental and Human Health," Caracas, Venezuela. 5 lectures on "Environmental Toxicology, Pathology and Analysis of Trace Elements."

9. September 2-5, 2001: Third International Meeting on Molecular Mechanisms of Metal Toxicity and Carcinogenicity, Sardegna, Italy. "Environmental Pathology of Chronic Arsenic Poisoning: An Overview and Introduction."
10. September 10-14, 2001: Buenos Aires, Argentina, Argentine Geological and Mining Survey (SEGEMAR). Short Course on "Effects of Mining: Environment, Human Health and Ecological Risk Analysis." 8 lectures on "Environmental Toxicology and Health Effects of Trace Elements."
11. November 5, 2001: Geological Society of America Annual Meeting, Boston, Mass. Pardee Symposium on "The Emerging Discipline of Medical Geology."
12. November 26, 2001: Canterbury Health Labs, Christchurch, New Zealand. Workshop on "Environmental Toxicology and Pathology: Trace Elements and Human Health." 4 lectures.
13. November 27, 2001: Canterbury Health Laboratories, Christchurch, New Zealand Workshop on "Environmental Toxicology and Pathology: An Overview of Analytical Methods on Trace Element Research." 4 lectures.
14. November 28-29, 2001: University of Canterbury, Christchurch, New Zealand. Workshop on "Metals, Health and the Environment: The New Zealand Experience." 6 lectures.
15. December 4, 2001: University of Otago, Wellington School of Medicine and Ecology Health Center, Wellington, New Zealand. Workshop on "Environmental Toxicology and Pathology: Exposure to Toxic Trace Elements." 4 lectures.

PUBLICATIONS

Journal Articles

1. Przygodzki RM, Goodman ZD, Rabin L, Centeno JA, Liu Y, Hubbs AE, O'Leary TJ. Hemochromatosis (HFE) gene sequence analysis of formalin-fixed, paraffin-embedded liver biopsy specimens. *Mol Diagn.* 2001;6:227-232.
2. Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C. Letter to the Editor. *Environ Health Perspect.* 2001;109:A465.

Abstracts

1. Wong PWK, Lawitz E, Torgenson S, Goodman Z, Centeno JA. The effects of hepatic steatosis on hepatic iron concentration in fresh and paraffin-embedded tissues. *Am J Gastroenterol.* 2001;96:S139.
2. Finkelman RB, Centeno JA, Zheng BS. Health impacts of coal: fallacies, and some solutions. In: *Proceedings of the Geological Society of America*; 2001:A27.
3. Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C, Page NP, Martinez L. Environmental pathology of chronic arsenic poisoning: an overview and introduction. In: *Proceedings of the Third International Meeting on Molecular Mechanisms of Metal Toxicity and Carcinogenicity*; September 2-5, 2001; Sardegna, Italy.
4. Centeno JA, Mullick FG, Finkelman RB. Metals, health and the environment. In: *Proceedings of the Second Conference on Medical Geology for East and Southern Africa Countries*; June 26 - 29, 2001.



Frank B. Johnson, MD
Chief
Date of Appointment—26 February 1990



DIVISION OF CHEMICAL PATHOLOGY

MISSION

The Division of Chemical Pathology provides consultation, education, and research in the diagnosis and interpretation of disease through the application of physical and chemical procedures to tissues and tissue products. The division conducts research and provides education in related subjects, particularly concerning environmental toxicology.

STAFF

- Medical:*
Frank B. Johnson, MD
- Scientific:*
Hazel Marie Jenkins, HT, ASCP, Histochemical Technologist
- Administrative:*
(D) Rosalie McQuade, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	720
Army	(484)
Navy	(2)
Air Force	(234)
Federal (VA/PHS)	56
VA	(56)
OFA	(0)
Civilian	9
Interdepartmental	23
Total	808

These 808 cases required the following types of procedures and analyses:

- Special Staining — 10 slides
- FTIR Calculi Cases (military) — 703
- FT-IR Calculi Cases (VA) — 54
- FT-IR non-Calculi Cases — 8
- SEM/EDXA — 53
- Wet chemistries — 1514
- Calculi file slides — 757
- Radio Frequency — Excited Plasma Reaction – 25

In addition, the division conducted scanning electron microscopy studies on cases from divisions within the department, the Division of Hepatic Pathology, the Division of Oph-

thalmic Pathology, the Department of Cardiovascular Pathology, the Department of Orthopedic Pathology, and the Department of Telepathology.

Impact:

1. The division conducts analyses on more calculi than any other laboratory in the military.
2. Scanning electron microscopy with energy dispersive X-ray analyses was used to characterize materials mixed with anthrax spores.
3. Dr. Johnson facilitated the expeditious review of human-use research protocols involving the health of active-duty military personnel and their families.
4. Dr. Johnson reviewed inventories of laboratory chemicals, and was instrumental in eliminating the use of mercury-containing reagents and other chemicals hazardous to the environment and to personnel.

Quality Assurance: The laboratory was found to have no deficiencies in the CAP inspection held October 30, 2001.

EDUCATION

Presentations and Seminars: Dr. Johnson provided informal educational experience to members of the staff by discussing cases in consultation. Ms. Jenkins presented lectures on scanning and transmission electron microscopy at the Tri-Service School of Histopathology

Trainees: One Red Cross volunteer worked in the division from September to December.

RESEARCH

Publications: Dr. Johnson participated as a coauthor of 1 research abstract. He also participated as author of "Identification of Foreign Substances in Tissues," a serial publication of the C L Davis Foundation for the Advancement of Veterinary Pathology.

Projects:

1. Development and refinement of methods for identification and characterization of foreign materials in tissues.
2. Studies on the purity of reagents used in histology laboratories also continued.

Equipment:

1. The energy dispersive X-ray analysis accessory was installed on the scanning electron microscope purchased in 2000.
2. A benchtop X-ray diffraction instrument was purchased to replace older equipment.

OTHER ACCOMPLISHMENTS

Committees (Extramural):

Chair, Human Use Committee, Walter Reed Army Institute of Research – FB Johnson

Official Trips:

April 2001, Nicolet Spectroscopy Solutions Seminar Series, Richmond, Va—HM Jenkins.

Continuing Education: The following workshops, courses, and conferences were attended by our division for continuing education:

1. AFIP Weekly Professional Staff Conferences, Washington, DC.
2. Hitachi SEM Training, AFIP, Washington, DC.
3. Spectroscopy Solutions Seminar Series, Richmond, Va.

Public Affairs Reports:

"A Terrorist's Fragile Footprint: Letter's Anthrax Spores Pose Many Obstacles to Analysis," *Washington Post*, November 29, 2001.

PUBLICATIONS

Abstract

Kalasinsky VF, Jenkins HM, Johnson FB, Wieboldt RD, Longmire M. Identification of foreign materials in tissue specimens using infrared and Raman microspectroscopy. In: *Abstracts of the 52nd Pittsburgh Conference*; March 4-9, 2001; New Orleans, La.



Michael R. Lewin-Smith, MD
Chief
Date of Appointment—1 November 2001



DIVISION OF ENVIRONMENTAL PATHOLOGY

MISSION

The Division of Environmental Pathology conducts consultation, education, and research in environmental, drug-induced, and radiation pathology. It studies ways to develop, implement, and apply toxicological techniques for analyzing human and animal tissue and determining causes of injury.

STAFF

Medical:

Michael R. Lewin-Smith, MD, Chief
David B. Busch, MD, PhD, Chief, Mutagen Branch
Charles S. Specht, MD, Staff Pathologist, ARP
(A) Elena R. Ladich, MD, Staff Pathologist, ARP
(D) Florabel G. Mullick, MD, ScD, SES, Acting Chief
(D) Elena R. Ladich, MD, Nelson S. Irey Environmental Fellow, ARP

Scientific:

(D) José A. Centeno, PhD, Chief, Biophysical Toxicology Branch
(D) Norbert Page, PhD, Administrator, INTOX Database, ARP
(A) Helen Manos, BA, BS, MS, Laboratory Technician (ARP), Mutagen Branch

Administrative:

(D) Mae S. Leonard, Secretary

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	12
Army	(3)
Navy	(1)
Air Force	(8)
Federal	3,804
VA	(3801)
USPHS	(0)
OFA	(4)
Civilian	62
Interdepartmental	24
Total	3,902

The above cases required the following types of procedures and analyses:

- H&E stain — 16
- Special stains — 30
- Immunohistochemical stains — 87 immunohistochemical slides cut
- Immuno Lab — 74 cases (374 slides)
- Electron microscopy — 1 case
- Direct immunofluorescence — 1 case
- Molecular biology study — 5 cases

Impact:

1. The division maintains the Registry for Former Prisoners of War (POWs), which contains histopathologic specimens dating back to 1945. The registry was established in 1980 in a Veterans Affairs (VA) circular. Since then, 23,993 specimens from 11,816 former POWs have been reviewed at the AFIP. During 2001, 1,793 new POW accessions were reported.
2. The division also maintains the Kuwait/Persian Gulf Registry for pathology specimens from Persian Gulf War veterans. This registry is supported by funding from the Department of Defense, and contains pathologic material contributed by Military Medical Treatment Facilities and VA Medical Centers. During 2001, 1,957 new Kuwait/Persian Gulf accessions were reported. Data derived from the Kuwait/Persian Gulf Registry were presented at the 2001 Conference on Federally Sponsored Gulf War Veterans' Illnesses Research, and the 2001 Meeting of the American Society of Clinical Pathologists/College of American Pathologists.
3. A special study conducted in the 1980s for Vietnam War veterans formed the basis for the AFIP Registry for Agent Orange, which is maintained by the division. Autopsy contributions, received mainly from VA Medical Centers, are periodically received for dioxin evaluation. The toxicologic evaluation of these cases is performed by the Division of Environmental Toxicology. In 2001, 51 new Agent Orange accessions were reported. In addition, the Veterans Affairs in Washington, DC, requests consultations on VA claims cases, predominantly with respect to possible associations of pathologic findings with reported prior exposure to Agent Orange. Division personnel reply to these consults in coordination with the department chair.
4. The department has developed the INTOX database, which contained several thousand cases and was reorganized in 2001. The INTOX database was renamed as the INTOX Data Center, and now is an umbrella for several databases that have been separated to more easily identify related cases. Division staff have been actively involved with the development of the new data center, and in redesigning the computerized records for the Tissue Reaction to Drugs (TRD) Registry. The registries for Agent Orange, Former Prisoners of War, Kuwait/Persian Gulf, and Radiation Pathology are databases in the INTOX Data Center. Division staff have also worked on the material for the Breast Explant and Chronic Arseniasis Registries. A new database for Environmental Agents has been created for agents previously included in the TRD Registry but which are not recognized as conventional drugs, diagnostic or therapeutic agents, or alternative therapies. The reorganization may take several years to complete, but will improve the utility of the data for future research.
5. Publication identifying the XP-D gene as the third known gene capable of being affected in COFS (CerebroOculoFacioSkeletal) syndrome.
6. Continued inability of research collaborator to identify the affected gene in a xeroderma pigmentosum patient whose cells were partially characterized and supplied by this AFIP lab. There is a good chance the patient will eventually be shown to be affected in a gene not previously known to be affected in XP.
7. Publication characterizing the last 10 unidentified mutants in the FAECB collection of over 200 UV-sensitive lines of CHO cells, including at least one line likely to be affected in a rarely, or not previously, encountered UV gene.
8. Preparation of CD-ROM on histopathology of cancer chemotherapy drugs and chemical warfare agents (CD version of old 35-mm slide study set). Transfer of almost complete set of lab's collection of human cell DNA repair mutants to NIH cell bank for human genetic diseases (Cornell Institute, Camden, NJ) and to laboratory of NCI research collaborator Ken Kraemer.

Quality Assurance:

1. Division staff (Dr. MR Lewin-Smith and Dr. CS Specht) reviewed 372 autopsy, surgical pathology, and cytology cases in 2001, as part of the AFIPs quality assurance program.
2. November 8-9, 2001, Scientific Advisory Board inspection, AFIP.
3. The division and the Mutagen and Radiation Pathology Branch successfully completed the College of American Pathologists lab inspection on October 30, 2001.

EDUCATION

Presentations and Seminars: Members of the division presented 1 invited lecture and 2 scientific presentations, representing 77 man-hours.

Trainees: During 2001, the division provided training to 1 Nelson S. Irey Environmental Pathology Fellow for 6 months/127 days.

Educational Aids:

CD-ROM: Busch D, Chandler EP. Histopathology of Cancer Chemotherapy Drugs and Chemical Warfare Agents, ARP, 2001.

RESEARCH

Publications: The division published 3 journal articles and 4 abstracts in 2001. Complete references are listed at the end of this report.

Projects: The division maintained the following 11 AFIP-approved research projects in 2001:

Principal Investigator: MR Lewin-Smith

1. The timing of hepatitis C seroconversion in a cohort of US Military Gulf War veterans (GWVs).
2. A histopathologic study of liver specimens from Persian Gulf War Military veterans.
3. Pathology of the lung in a cohort of former Prisoners of War.
4. The anatomic pathology of former Prisoners of War.

Principal Investigator: CS Specht

1. Histopathologic study of inflammatory and neoplastic skin lesions in Gulf War veterans.
2. Histopathologic study of inflammatory and neoplastic colon lesions in Gulf War veterans.
3. A histopathologic review of head and neck specimens from a cohort of Persian Gulf War veterans.
4. A follow-up study of 100 liver specimens from a cohort of Persian Gulf War Military veterans.
5. A follow-up study of colonic specimens without overt histopathologic abnormalities from a cohort of Persian Gulf War Military veterans.

Principal Investigator: DB Busch

1. In vitro isolation of human cell DNA repair mutants.
2. Complementation group assignments of mutagen-sensitive human cells isolated in vivo.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

KC Holtzmuller, WRAMC, Hepatic disease in US Military Gulf War Veterans (GWVs).

Civilian:

1. Mr. C. Watkins and Mr. S. Stofko, Prisoner of War Information System (POWIS), Pathology of the lung in former Prisoners of War.
2. James E. Cleaver, PhD, University of California, San Francisco. Help with performing complementation group assignments of suspected XP group A and XP variant patients; source of referral for XP cases.
3. John Graham, Jr, MD, University of California, Los Angeles. Initiator of project to identify the biochemical and genetic defect in a series of patients with COFS and MICRO syndromes (clinically similar to Cockayne syndrome), with most of the laboratory work done at AFIP lab. Consultant for CS and similar cases.
4. Ken Kraemer, MD, National Cancer Institute, National Institutes of Health, Bethesda Md. Source of quality control (conducts slide signouts reviewing suspected xeroderma pigmentosum and Cockayne syndrome cases handled at AFIP lab); performs complementation group assignments and mutation analysis for XP cases; technical advice on laboratory problems; source of referral for XP cases. Runs the only US Registry of XP Patients; sees XP patients in clinic in his capacity as a practicing research dermatologist; performs basic research on XP.

International:

1. Dept of Cell Biology and Genetics, Erasmus University, Rotterdam, The Netherlands (Drs (PhD) Jan Hoeijmakers, Jan de Wit, Nicolaas G.J. Jaspers, Wim Vermeulen, and coworkers). The group has been of particular help to the AFIP laboratory by providing training in DNA repair tests for 2 ARP technicians (Roberta Bliss Albert and Deborah A. White) and for

DB Busch; and has provided useful written protocols and software used for plotting of AFIP lab data. They also have participated in the detailed characterization of a COFS syndrome case first studied at the AFIP lab, showing it to be the first COFS case caused by a defective XP-D (*ERCC2*) gene; and also identified an XP-D gene defect in an unusual UV-sensitive, but cancer-free, Canadian family followed at the AFIP lab. Perform prenatal testing for xeroderma pigmentosum and Cockayne syndrome not available in the US.

2. Hanoch Slor, PhD, Dept of Human Genetics, Tel Aviv Univ, Israel. Provides cultures of suspected XP patients for evaluation.

Interdepartmental:

1. L Rabin, MD, Division of Hepatic Pathology, Hepatic disease in US Military Gulf War veterans (GWVs).
2. A Kende, Maj, USAF, Division of Gastrointestinal Pathology, Follow-up study of Gulf War veterans with colonic specimens without overt histopathologic changes.

Offices/Committee Memberships in National or International Societies:

Member, Board of Directors, Share and Care Cockayne Syndrome Network Inc (DB Busch)

Faculty Appointments:

1. The George Washington University, Assistant Clinical Professor of Pathology, Department of Pathology (MR Lewin-Smith).
2. Georgetown University, Adjunct Assistant Professor, Department of Pathology (MR Lewin-Smith).

New Missions and/or Missions Dropped:

1. The Biophysical Toxicology Branch was removed from the division and a new division was created (see Departmental Summary).
2. The reorganization of the INTOX Data Center and updating of the TRD Registry were initiated in 2001.

Official Trips:

1. January 2001: Alexandria Va, Research Working Group: Military and Veterans Health Coordinating Board, Conference on Illnesses among Gulf War Veterans: a Decade of Scientific Research (MR Lewin-Smith, CS Specht)
2. Jan 29-Feb 2, 2001. Rotterdam, The Netherlands (Dept of Cell Biology and Genetics, Erasmus Univ) (DB Busch)
3. March 2001: Atlanta Ga, 90th Annual Meeting of the United States and Canadian Academy of Pathology (ER Ladich) (ARP)
4. October 2001: Philadelphia, Pa, 2001 Meeting of the American Society of Clinical Pathologists/College of American Pathologists (CS Specht) (ARP)
5. November 2001: Washington, DC, Georgetown University, Department of Pathology (MR Lewin-Smith) (ARP)

Continuing Education:

Members of the division received CME from the following activities in 2001:

1. Weekly Professional Staff Conferences and invited lectures at the AFIP.
2. The Conference on Federally Sponsored Gulf War Veterans' Illnesses Research.
3. National Capital Reciprocal Insurance Company (NCRIC).
4. CPR Certification Course.
5. United States and Canadian Academy of Pathology Annual Meeting.
6. Oakstone Medical Publishing/Johns Hopkins University School of Medicine.

PRESENTATIONS

1. January 2001: Alexandria, Va, Research Working Group: Military and Veterans Health Coordinating Board, Conference on Illnesses among Gulf War Veterans: a Decade of Scientific Research, "Gastrointestinal tract pathology specimens from US Military Gulf War veterans," (MR Lewin-Smith).
2. January 2001: Alexandria, Va, Research Working Group: Military and Veterans Health Coordinating Board. Conference on Illnesses among Gulf War Veterans: a Decade of Scientific Research, "Histopathologic study of skin biopsy tissue in Gulf War veterans. The Kuwait Registry, AFIP" (Platform Presentation) (CS Specht).

3. March 2001: Atlanta, Ga, 90th Annual Meeting of the United States and Canadian Academy of Pathology, "A histopathologic study of head and neck specimens from a cohort of Persian Gulf War Military Veterans" (ER Ladich).
4. October 2001: Philadelphia, Pa, 2001 Meeting of the American Society of Clinical Pathologists/College of American Pathologists, "The distribution of anatomic pathology diagnoses in a cohort of US Persian Gulf War Military Veterans" (CS Specht).
5. November 2001: Washington, DC, Georgetown University, Department of Pathology, "The cytology of infectious diseases" (MR Lewin-Smith).

PUBLICATIONS

Journal Articles

1. Graham JM Jr, Anyane-Yeboah K, Raams A, Appeldoorn E, Kleijer WJ, Garritsen VH, Busch D, Edersheim TG, Jaspers NG. Cerebro-oculo-facio-skeletal syndrome with a nucleotide excision-repair defect and a mutated XPD gene, with prenatal diagnosis in a triplet pregnancy. *Am J Hum Genet.* 2001;69:291-300.
2. Gozukara EM, Khan SG, Metin A, Emmert S, Busch DB, Shahnavi T, Coleman DM, Miller M, Chinsomboon N, Stefanini M, Kraemer KH. A stop codon in xeroderma pigmentosum group C families in Turkey and Italy: molecular genetic evidence for a common ancestor. *J Invest Dermatol.* 2001;117:197-204.
3. Busch DB, White Ziffer D, Coleman D, Wills L, McDonough HG, Jones NJ. Phenotype of FAECB (Facility for Automated Experiments in Cell Biology) Chinese hamster ovary mutants with minimal UV-sensitivity. *Mutat Res.* 2001;487:31-39.

Abstracts

1. Ladich ER, Specht CS, Lewin-Smith MR, Moroz AL, Kalasinsky VF, Mullick FG. A histopathologic study of head and neck specimens from a cohort of Persian Gulf War Military veterans. *Mod Pathol.* 2001;14:151A.
2. Lewin-Smith MR, Specht CS, Moroz AL, Ladich ER, Kalasinsky VF, Mullick FG. The distribution of anatomic pathology diagnoses in a cohort of US Persian Gulf War Military veterans. *Am J Clin Pathol.* 2001;116:599-600.
3. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Mullick FG. Histopathologic study of skin biopsies in Gulf War veterans. The Kuwait Registry AFIP. In: *Abstracts of the Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2002; Alexandria, Va.
4. Lewin-Smith MR, Specht CS, Ladich ER, Kalasinsky VF, Mullick FG. Gastrointestinal tract pathology specimens from US Military Gulf War veterans. In: *Abstracts of the Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2002; Alexandria, Va.



Victor F. Kalasinsky, PhD
Chief
Date of Appointment—25 September 1989



DIVISION OF ENVIRONMENTAL TOXICOLOGY

MISSION

The Division of Environmental Toxicology conducts consultation, education, and research in environmental toxicology. It develops techniques for analyzing human and animal tissue and determining causes of injury.

STAFF

- Scientific:*
Victor F. Kalasinsky, PhD, Chief
Steven C. Cordero, MS, Laboratory Manager
(A,D) Dana Dettmer, Laboratory Technician
(A) Tricia Kwiatkowski, MS, Laboratory Technician
Albin L. Moroz, MS, Computer Program Analyst
(A) Jessie Tristan, BS, Computer Applications Specialist
(D) Diane M. Wong-Verelle, MS, Laboratory Technician

DIAGNOSTIC CONSULTATION

Cases	Completed
Military	81
Army	(75)
Navy	(1)
Air Force	(5)
Federal	19
VA	(3)
USPHS	(16)
OFA	(0)
Civilian	7
Interdepartmental	16
Total	123

The division had tissue sections cut for 24 special reflective slides and 10 carbon disks. By using gas chromatography, mass spectrometry, liquid chromatography, Fourier transform infrared and Raman spectrometry, and scanning electron microscopy with energy dispersive X-ray analysis, it was possible to identify or characterize unknown chemical substances in 32 cases. These included pesticides, plastics, therapeutic drugs, and 4 cases of dioxin analysis in patients thought to have been exposed to Agent Orange in Vietnam. Other cases included serologic tests on Gulf War veterans.

- Impact:**
1. Improved detection limits were obtained for insect repellents sampled from transdermal sweat patches.
 2. Spectrometric analyses of the residue in an “empty” syringe identified a paralytic agent that was inadvertently administered to a patient.
 3. Spectroscopic data collected for microorganisms suggest it will be possible to discriminate among different genera.

4. Scanning electron microscopy with energy dispersive X-ray analysis was used to characterize materials mixed with anthrax spores.

Quality Assurance:

1. The division annually participates in 1 CAP proficiency test and 2 NIST intercomparison exercises.
2. The division conducted 4 quality assurance analyses of xylene and ethyl alcohol in support of the solvent recycling program at AFIP.
3. The division successfully completed the CAP inspection held on October 30, 2001.
4. Division staff conducted QA review of 76 cases involving urinary calculi.

EDUCATION

Presentations and Seminars: Division staff made 8 presentations at meetings and conferences, representing 180 man-hours in 2001. Dates and titles are listed at the end of this report.

Trainees: 2 SEAP high school summer students and 1 SEQUEL college student spent 8 weeks in the environmental toxicology laboratory learning analytical methods of toxicology; 1 Red Cross volunteer spent 4 months (84 days) in the laboratory.

RESEARCH

Publications: Division staff coauthored 1 book chapter and published 6 abstracts. A complete list of references appears at the end of this report.

Projects: Division staff conducted research described in 12 approved protocols.

1. Military Working Dogs Deployed to Southwest Asia as Sentinels for Human Environmental Exposure during the Persian Gulf War
2. Prospective Clinical and Laboratory Evaluation of Patients with Silicone Breast Implants: Determination of Silicon Baseline Levels and Molecular Microanalysis of Pathological Specimens Associated with Fibrous Capsules
3. Histopathologic Study of Inflammatory and Neoplastic Skin Lesions in Gulf War Veterans
4. Histopathologic Study of Inflammatory and Neoplastic Colon lesions in Gulf War Veterans
5. Infrared Spectroscopic Mapping of Atherosclerotic Plaques Associated with Sudden Cardiac Death.
6. A Follow-up Study of Colonic Specimens Without Overt Histopathologic Abnormalities from a Cohort of Persian Gulf War Military Veterans
7. A Histopathologic Review of Head and Neck Specimens from a Cohort of Persian Gulf War Veterans
8. The Anatomic Pathology of Former Prisoners of War
9. Pathology of the Lung in a Cohort of Former Prisoners of War
10. The Timing of Hepatitis C Seroconversion in a Cohort of Gulf War Military Veterans
11. A Histopathologic Study of Liver Specimens from Persian Gulf War Military Veterans
12. Histopathologic Review and Chemical Analysis of Autopsy Material from the Agent Orange Registry.

— In Gulf War-related studies, the division is participating in the DoD's Comprehensive Clinical Evaluation Program (CCEP). AFIP is charged with the long-term storage of blood and serum specimens collected from Gulf War veterans and their families, who are reporting symptoms that might be related to service in the Gulf region. A database for diagnosis of anatomic pathology specimens is also being maintained for Gulf War veterans reporting to VA or military hospitals.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. National Institutes of Health, Bethesda, Md – Dr. Ira W. Levin
2. Walter Reed Army Medical Center, Washington, DC – Dr. Kent C. Holtzmuller
3. Global Emerging Infections System, Silver Spring, Md – Drs. Patrick W. Kelley and Joel C. Gaydos

4. US Army Soldier and Biological Chemical Command, Aberdeen, Md – Dr. Alan C. Samuels
5. US Army Medical Research Institute of Infectious Diseases – Dr. Thomas Geisbert
6. US Army Center for Health Promotion and Preventive Medicine – Dr. Jack Heller

Civilian:

Prisoner of War Information System (POW-IS) – C. L. Watkins and S. J. Stofko

International:

National Research Council, Winnipeg, Canada — Dr. Michael Attas

Committees (Extramural):

Member, Technical Qualification Board, USEPA National Exposure Research Laboratory, Athens, Ga – VF Kalasinsky

Faculty Appointments:

Adjunct Professors, Hamline University – VF Kalasinsky, SC Cordero

Scientific Appointments:

Guest Researcher at NIH (National Institute of Diabetes, Digestive, and Kidney Diseases, NIDDK) – VF Kalasinsky

Editorial Appointments:

Associate Editor, *Vibrational Spectroscopy* — VF Kalasinsky

Manuscripts Reviewed:

VF Kalasinsky

1. *Analytical Chemistry* (2)
2. *Applied Spectroscopy* (1)
3. *Journal of Physical Chemistry* (2)
4. *Vibrational Spectroscopy* (4)

New Missions:

1. DoD-GEIS – A memorandum of understanding with the DoD Global Emerging Infections System (DoD-GEIS) establishes AFIP as the agency which will create a directory of public health laboratory services in a virtual public health laboratory (VPHL). Access to the directory will be available to authorized users over the Internet.
2. SBCCOM – Through a memorandum of understanding with Aberdeen Proving Ground, and in collaboration with the Division of Microbiology at AFIP, the possibility of discriminating among different microorganisms by using infrared and Raman spectroscopy in a field situation is being investigated.

Official Trips:

1. January 2001, Conference on Illnesses among Gulf War Veterans: A Decade of Scientific Research, Alexandria, Va, VF Kalasinsky.
2. February 2001, AFRRI Strategy Meeting on the Medical Response to Depleted Uranium Exposures, Bethesda, Md, VF Kalasinsky.
3. March 2001, 52nd Pittsburgh Conference on Analytical Chemistry and Spectroscopy, New Orleans, La, SC Cordero (ARP).
4. April 2001, Nicolet Spectroscopy Solutions Seminar Series, Richmond, Va, DM Wong-Verelle.
5. May 2001, Mid-Atlantic Regional Meeting of the American Chemical Society, Towson, Md, DM Wong-Verelle (ARP).
6. June 2001, Hewlett-Packard Workshop: Applications of Mass Spectrometry coupled to Gas and Liquid Chromatography, Baltimore, Md, SC Cordero.
7. August 2001, International Conference on Fourier Transform Spectroscopy and Advanced Vibrational Spectroscopy, Turku, Finland, VF Kalasinsky (Elsevier).
8. September 2001, Joint Conference on Standoff Detection for Chemical and Biological Defense, Williamsburg, Va, VF Kalasinsky.

Continuing Education: The following workshops, courses, and conferences were attended by our division for continuing education:

1. Hitachi SEM Training, AFIP, Washington, DC.
2. Spectroscopy Solutions Seminar Series, Richmond, Va.

3. Detection of Biological and Chemical Agents, Towson, Md.
4. Applications of Mass Spectrometry coupled to Gas and Liquid Chromatography, Baltimore, Md.
5. Spectroscopy Solutions Seminar Series, Bethesda, Md.
6. Introduction to the Principles of Radiation Protection, Washington, DC.
7. Research Symposium: FT-IR and Raman Microspectroscopy, Bethesda, Md.

Public Affairs Reports:

"A Terrorist's Fragile Footprint: Letter's Anthrax Spores Pose Many Obstacles to Analysis," *Washington Post*, November 29, 2001.

PRESENTATIONS:

1. January 2001: Alexandria, Va, "Gastrointestinal Tract Pathology Specimens from US Military Gulf War Veterans," MR Lewin-Smith.
2. January 2001: Alexandria, Va, "Histopathologic Study of Skin Biopsies in Gulf War Veterans. The Kuwait Registry, AFIP," CS Specht.
3. February 2001: Silver Spring, Md, Global Emerging Infections System Advisory Board Meeting, "DoD-GEIS Virtual Public Health Laboratory," VF Kalasinsky.
4. March 2001: New Orleans, La, 52nd Pittsburgh Conference, "Identification of Foreign Materials in Tissue Specimens using Infrared and Raman Microspectroscopy," KS Kalasinsky.
5. March 2001: New Orleans, La, 52nd Pittsburgh Conference, "Detection of Applied Chemicals using a Transdermal Sweat Patch and GC/MS Analysis," SC Cordero.
6. March 2001: Washington, DC, Institute of Medicine Oversight Committee Meeting, "DoD-GEIS Directory of Public Health Laboratory Services in a Virtual Public Health Laboratory," VF Kalasinsky.
7. November 2001: Wilmington, Del, Nicolet Research Symposium, "Infrared and Raman Microscopy of Foreign Materials in Tissue," KS Kalasinsky.
8. December 2001: Bethesda, Md, Nicolet Research Symposium, "Infrared and Raman Microscopy of Foreign Materials in Tissue," VF Kalasinsky.

PUBLICATIONS:

Abstracts

1. Lewin-Smith MR, Specht CS, Ladich ER, Kalasinsky VF, Mullick FG. Gastrointestinal tract pathology specimens from US Military Gulf War veterans. In: *Abstracts of the Conference on Illnesses among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2001; Alexandria, Va.
2. Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Mullick FG. Histopathologic study of skin biopsies in Gulf War veterans. The Kuwait Registry, AFIP. In: *Abstracts of the Conference on Illnesses among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2001; Alexandria, Va.
3. Ladich ER, Specht CS, Lewin-Smith MR, Moroz AL, Kalasinsky VF, Mullick FG. A histopathologic study of head and neck specimens from a cohort of Persian Gulf War Military veterans. *Mod Pathol*. 2001;14:151A.
4. Kalasinsky VF, Jenkins HM, Johnson FB, Wieboldt RD, Longmire M. Identification of foreign materials in tissue specimens using infrared and Raman microspectroscopy. In: *Abstracts of the 52nd Pittsburgh Conference*; March 4-9, 2001, New Orleans, La..
5. Cordero SC, Corso CJ, Lo A, Wong-Verelle DM, Kalasinsky VF. Detection of applied chemicals using a transdermal sweat patch and GC/MS analysis. In: *Abstracts of the 52nd Pittsburgh Conference*; March 4-9, 2001; New Orleans, La.
6. Lewin-Smith MR, Specht CS, Moroz AL, Ladich ER, Kalasinsky VF, Mullick FG. The distribution of anatomic pathology diagnoses in a cohort of US Persian Gulf War Military veterans. *Am J Clin Pathol*. 2001;116:599-600.

Book Chapter

Kalasinsky KS, Kalasinsky VF. High performance liquid chromatography-Fourier transform infrared spectroscopy. In: Griffiths PR, Chalmers JC, eds. *The Handbook of Vibrational Spectroscopy*. New York, NY: John Wiley and Sons; 2001:1641-1660.



Douglas J. Wear, MD
Chair
Date of Appointment — 27 June 1988

○ ○ ○
○ ○ ○
○ ○ ○

DEPARTMENT OF INFECTIOUS AND PARASITIC DISEASES PATHOLOGY

MISSION

See individual division reports.

ORGANIZATION

The department is organized into 3 divisions and the Office of the Chair.

1. Division of Infectious and Tropical Diseases Pathology — Peter L. McEvoy, LTC, MC, USA
2. Division of Microbiology — Ted L. Hadfield, LtCol, USAF, BSC (Ret), Distinguished Scientist
3. Division of Molecular Pathobiology — Shyh-Ching Lo, MD, PhD

STAFF

Office of the Chair

Medical:

Douglas J. Wear, MD, Distinguished Scientist, ARP
Sarah S. Frankel, MD

Administrative:

Darlene Wilson, Secretary to the Chair

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	142
Federal(VA/PHS)	110
Civilian.....	434
Interdepartmental	816
No Final Report Required.....	38
TOTAL	1,502

EDUCATION

Presentations and Seminars: Department staff gave 24 presentations and seminars in 2001. See division reports for dates and titles.

Courses: Department staff participated in 4 non-AFIP courses and supported 2 nondepartmental AFIP courses. See division reports for complete information.

Trainees: The department provided training to 6 professionals, fellows, and students, including 2 Air Force Academy students, for a total of 332 training days.

RESEARCH

Publications and Projects: Department staff published 13 journal articles, 15 abstracts, and 3 book chapters; coedited the *2000 Annual Report*; produced a monograph; and worked on 23 research projects. See division reports for details.

OTHER ACCOMPLISHMENTS

Collaborators:

Military:

Division of Retrovirology, WRAIR, Rockville, Md.

Civilian:

Aaron Diamond AIDS Research Center, Rockefeller University, New York.

Committees:

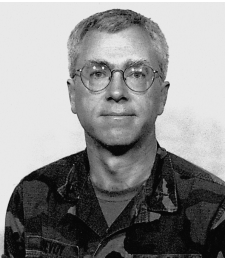
DJ Wear:

1. Executive Committee, Substitute for Director, CAP
2. CAP Advisory Committee
3. Tissue Utilization Committee
4. Space and Facility Committee
5. Master Planning Committee
6. Registrars Forum
7. Case Management Committee
8. ARP Research Grant Subcommittee

PUBLICATIONS

Journal Articles

1. Bhoopat L, Eiangleng L, Rugpao S, Frankel SS, Weissman D, Lekawanvijit S, Petchjom S, Thorner P, Bhoopat T. In vivo identification of Langerhans and related dendritic cells infected with HIV-1 subtype E in vaginal mucosa of asymptomatic patients. *Mod Pathol.* 2001;14:1263-1269.
2. Cohn MA, Frankel SS, Rugpao S, Young MA, Willett G, Tovanabutra S, Khamboonruang C, VanCott T, Bhoopat L, Barrick S, Fox C, Quinn TC, Vahey M, Nelson KE, Weissman D. Chronic inflammation with increased human immunodeficiency virus (HIV) RNA expression in the vaginal epithelium of HIV-infected Thai women. *J Infect Dis.* 2001;184:410-417.
3. Moron CG, Popov VL, Feng HM, Wear D, Walker DH. Identification of the target cells of *Orientia tsutsugamushi* in human cases of scrub typhus. *Mod Pathol.* 2001;14:752-759.



Peter L. McEvoy, COL, MC, USA
Chief
Date of Appointment — 14 April 1997/2001



DIVISION OF INFECTIOUS AND TROPICAL DISEASES PATHOLOGY

MISSION

The new Division of Infectious and Tropical Diseases Pathology replaces and expands the previous Division of Geographic Pathology, subsuming it, the Division of AIDS Pathology and Emerging Infectious Diseases, and the Mycobacteriology Branch of the Division of Microbiology. This new division provides medical expertise in diagnostic consultation, education, and research on human tissues and body fluids for military, VA, and civilian hospitals in the United States, and for missionary hospitals in Africa. Materials of epidemic, emerging, reemerging, and unusual diseases, including HIV-related, emerging infections, Buruli ulcer, and leprosy, are studied, cataloged, and compiled in our teaching materials. These teaching materials enhance awareness and understanding in the medical community of the pathology and pathogenesis of infectious diseases. They also facilitate our special research interests in endemic tropical diseases.

STAFF

Medical:

Peter L. McEvoy, COL, MC, USA, Chief,
Mary K. Klassen-Fischer, Maj, USAF, MC, Chief, Fungal Diseases Branch
Ronald C. Neafie, MS, Chief, Parasitology Branch
Ann M. Nelson, MD, Chief, AIDS Pathology and Emerging Infectious Diseases Branch
Wayne M. Meyers, MD, PhD, Chief, Mycobacteriology Branch

Fellows:

Melanie Maleombhoma, MD, Red Cross Volunteer

Administrative:

Cynthia G. Wilson, Secretary, ARP

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	125
Army	65
Navy	29
Air Force.....	31
Federal	48
VA	44
USPHS	0
OFA	4
Civilian	297
Interdepartmental.....	712
No Final Report Required.	35
Total	1,217

Our division made no change in the contributor diagnosis in 330 cases, a minor change in diagnosis in 103 cases, and a major change in diagnosis in 6 cases. We received 28 cases with no contributor diagnosis; 3 cases were recorded without coding.

AIDS PATHOLOGY AND EMERGING INFECTIOUS DISEASES BRANCH

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	16
Army	2
Navy	3
Air Force.....	11
Federal	61
VA	61
USPHS	0
OFA	0
Civilian	65
Interdepartmental.....	45
Total	187

Our branch made no change in the contributor diagnosis in 125 cases, a minor change in diagnosis in 14 cases, and a major change in diagnosis in 0 cases. We received 3 cases with no contributor diagnosis; no case was recorded without coding.

MYCOBACTERIOLOGY BRANCH

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	0
Army	0
Navy	0
Air Force.....	1
Federal	1
VA	0
USPHS	0
OFA	1
Civilian	72
Interdepartmental.....	7
Total	80

For the 3 divisions of Infectious and Tropical Diseases Pathology, Molecular Pathobiology, and Microbiology, 1,342 cases for consultation, 37 for education, and 63 for research required the following types of procedures and analyses:

- H&E stains – 2,081 slides
- Special stains – 7,126 slides
- Immunohistochemical staining – 133 slides
- Total recuts studied – 9,340
- Contributor slides studied – 3,298

Deployments:

1. One month, Malcolm Grow Medical Center Department of Anatomic Pathology, Case Signouts and evening and weekend coverage, MK Klassen-Fischer.

2. Weekly, WRAMC Department of Anatomic Pathology, Case Signouts, PL McEvoy.
3. AM Nelson was a member of 1 CAP inspection team that went to Washington Hospital Center.

Impact:

The AIDS Branch has developed the world's largest repository (>6,000 cases) of cases of HIV infection and AIDS. The collection dates back to the 1970s and includes material from original cases reported to the Centers for Disease Control and Prevention, and autopsy, surgical, and cytology material from the US, Africa, Central and South America, Europe, and Asia. Material from the repository has been used for 2 books and courses on the pathology of emerging infections, and for contributions to the National Cancer Institute HIV-related Malignancy Bank. The material is organized by patient demographics, tissue site, and diagnosis. This database is the basis for:

- a multidisciplinary course on diagnosis of indicator conditions of HIV infection and AIDS (2002).
- chapters in the authoritative text on the histopathology of the spectrum of disease in HIV infection and AIDS.

Quality Assurance:

1. Improved the quality of the Histopathology Laboratory by tracking stain quality and presence of artifacts, especially Warthin-Starry and Grocott.
2. Maintained database to track reportable infectious diseases in active-duty military personnel.
3. Advised on the development of joint federal epidemiological tracking of emerging infectious diseases.
4. Produced HQAP Case of the Quarter, PL McEvoy.
5. Chaired Biosafety Committee, MK Klassen-Fischer.
6. Member of Vision Work Group, MK Klassen-Fischer.

EDUCATION

Presentations and Seminars: The division gave 15 presentations, for a total of 375 man-hours, and conducted departmental slide conferences 5 times per week. The AIDS Branch participated in the daily slide conference and was responsible for 8 presentations, for a total of 244.5 man-hours. A complete list of dates and titles appears at the end of this report.

Courses: The division's professional staff participated in 2 non-AFIP courses (Military Medicine Course, Binford-Dammin Society of Infectious Disease Pathologists, USCAP) and 1 AFIP course. The next course on AIDS will be in 2002.

Trainees: The division had 4 trainees, for 144 trainee-days.

Educational Aids: The division maintains glass teaching sets with examples of multiple infectious diseases in tissues, as well as AIDS study sets (50 stained glass slides each) and additional study sets (69 2X2 transparencies and case discussion booklet) for trainees and visitors, and for the biannual departmental course.

RESEARCH

Publications: The division published 4 journal articles, 3 abstracts, 3 book chapters, and 1 monograph in 2001. Complete references are listed at the end of this report.

Projects: The division maintained 3 research projects in 2001:

1. WHO Collaborating Center
2. Dengue Virus Vaccine, M Klassen-Fischer
3. The National Cancer Institute Human Immunodeficiency Virus-Related Malignancy Bank
4. AIDS Atlas

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Naval Medical Research Institute, Bethesda, Md
2. Walter Reed Army Institute of Research, Silver Spring, Md
3. Division of Retrovirology, WRAIR, Rockville, Md

4. Walter Reed Army Medical Center, Washington, DC

Civilian:

1. L. Barth Reller, MD, Duke University Medical Center, Durham, NC.
2. John F. Madden, MD, Duke University Medical Center, Durham, NC.
3. C. Robert Horsburgh, Jr, MD, Boston University, School of Public Health, Boston, Mass.
4. Jan Orenstein, MD, The George Washington University Medical Center, Washington, DC.
5. Michael N. Koss, MD, University of Southern California, School of Medicine, Los Angeles, Calif.
6. Lebastian Lucas, MD, Guy's King's and St. Thomas, School of Medicine, London, UK.
7. Nancy Kivick, MD, University of Washington, School of Medicine, Seattle, Wash.
8. Henry M. Jackson Foundation, Rockville, Md.

Committees (Extramural):

Owl School Student Science Fair Committee, M Klassen-Fischer

Editorial Boards:

1. Editor, *History of Pathology Society Newsletter*, AM Nelson
2. Section Editor, *Annals of Diagnostic Pathology*, AM Nelson
3. Editorial Board, *Pathology, Research and Practice*, AM Nelson

Offices/Committee Memberships in National and International Societies:

1. Executive Committee, Helminthological Society of Washington, RC Neafie.
2. Chair, Scientific Program Committee of Binford-Dammin Society of Infectious Disease Pathologists, MK Klassen-Fischer.
3. Member, WHO Ad Hoc Advisory Group Meeting on Buruli Ulcer, Geneva, Switzerland, WM Meyers.
4. Member, WHO and American Leprosy Mission Advisory Team on Training for Buruli Ulcer Treatment and Detection for Ghana Ministry of Health, WM Meyers.
5. Representative for American Leprosy Missions at World Global Health Meeting, Washington, DC, WM Meyers.
6. Member, Discussion and Planning Group on Vaccines for Tuberculosis, Leprosy, and Buruli Ulcer, Corixa and Infectious Disease Research Institute, Seattle, Washington.
7. Antwerp and Brussels, Belgium. Collaboration on Buruli Ulcer Research, WM Meyers.
8. Member of Jury for Defense of Thesis by Doctoral Candidate, M Karim Chemlal, University of Ghent, Antwerp, Belgium and Institute of Tropical Medicine, Antwerp, WM Meyers.
9. Education Committee, US and Canadian Academy of Pathology, AM Nelson.
10. Secretary, History of Pathology Society, AM Nelson.
11. American Board of Pathology, Test Committee Medical Microbiology, AM Nelson.

Committees (Intramural):

1. Biosafety Committee, Chair, M Klassen-Fischer
2. Research Committee, M Klassen-Fischer
3. ARP Education Committee, AM Nelson
2. AFIP Oversight Committee for Medical Education, AM Nelson
4. Coordinator, Owl School Science Fair, Washington, DC, AM Nelson

Continuing Education: Division staff attended training courses in 2001, provided by the following:

1. Greater Washington Infectious Disease Society
2. Tropical Medicine Association of Washington
3. Tropical Medicine Dinner Club of Baltimore, Johns Hopkins
4. Helminthological Society of Washington
5. American Society of Microbiology
6. USCAP

Official Trips:

WM Meyers:

1. March, 2001, Geneva, Switzerland, 4th WHO Advisory Group Meeting on Buruli Ulcer.
2. May 2001, Greenville, SC, Board of Directors, American Leprosy Missions, Inc.
3. June 2001, Washington, DC, World Global Health meeting on Women's Health.
4. July 2001, Seattle, Wash, Vaccines in Leprosy and Buruli Ulcer, Consultation for American Leprosy Missions, with Corixa and Infectious Disease Research Institute.
5. October 2001, Antwerp and Brussels, Belgium, Research collaboration and consultation with Institute of Tropical Medicine.
6. November 2001, Bellmore, NY, Board Meeting, Damien-Dutton Society for Leprosy Aid, Inc.
7. November 2001, Greenville, SC, Board of Directors, American Leprosy Missions, Inc.
8. December 2001, Antwerp, Belgium, University of Ghent, Member of Examining Committee for doctor of philosophy candidate Karim Chemlal.
9. December 2001, Geneva, Switzerland, WHO meeting on Buruli Ulcer, Planning session for vaccination trial.

MK Klassen-Fischer:

1. March 2001, Atlanta, Ga, USCAP, 90th Annual Meeting.
2. May 2001, Orlando, Fla, American Society for Microbiology, 101st General Meeting.

PRESENTATIONS

1. January and February 2001: USUHS Pathology Small Groups, MK Klassen-Fischer.
2. January 2001: Washington, DC, Georgetown University Medical Center, "Pathology of the altered host response in AIDS," AM Nelson.
3. January 2001: Bethesda, Md, Uniformed Services University of the Health Sciences, Grand Rounds, "Pathology of the altered host response in AIDS," AM Nelson.
4. March 2001: USCAP Annual Meeting, Infectious Disease Evening Specialty Conference.
5. June 2001: New York, NY, New York University Hospital, Pathology Grand Rounds, "Emerging infections, HIV and AIDS," AM Nelson.
6. July 2001: Baltimore, Md, The Johns Hopkins School of Hygiene and Public Health Course, "AIDS pathology," AM Nelson.
7. October 2001: AFIP Weekly Staff Conference, "An interesting case for the AIDS Branch, bacillary angiomatosis," AM Nelson.
8. October 2001: Washington, DC, George Washington University, "The altered host response: a pathologist's perspective of HIV infections and AIDS," AM Nelson.
9. October 2001: Washington, DC, AFIP, Wednesday Staff Conference, "Interesting cases," PL McEvoy.
10. October 2001: Washington, DC, AFIP, Wednesday Staff Conference, "Interesting cases," M Klassen-Fischer.
11. October 2001: Washington, DC, AFIP, Wednesday Staff Conference, "Interesting cases," AM Nelson.
12. October 2001: Washington, DC, AFIP, Wednesday Staff Conference, "Interesting cases," RC Neafie.
13. November 2001: Dengue Virus Challenge Symposium, MK Klassen-Fischer.
14. November 2001: North Carolina, Duke University, "A pathologist's perspective of the immunology AIDS," AM Nelson.
15. November 2001: North Carolina, Duke University, "Vascular lesions in AIDS patients: glass slide seminar," AM Nelson.

Collaborators:

Military:

1. Naval Medical Research Institute, Bethesda, Md
2. Walter Reed Army Institute of Research, Silver Spring, Md

3. Division of Retrovirology, WRAIR, Rockville, Md
4. Walter Reed Army Medical Center, Washington, DC

Civilian:

Henry M. Jackson Foundation, Rockville, Md

PUBLICATIONS

Journal Articles

1. Gomez A, Mve-Obiang, Vray B, Rudnicka W, Shamputa IC, Portaels F, Meyers WM, Fonteyne PA, Realini L. Detection of phospholipase C (PLC) in nontuberculous mycobacteria and its possible role in hemolytic activity. *J Clin Microbiol.* 2001;39:1396-1401.
2. Chemlal K, de Ridder K, Fonteyne PA, Meyers WM, Swings J, Portaels F. The use of IS2404 restriction fragment length polymorphisms suggests the diversity of *Mycobacterium ulcerans* from different geographical areas. *Am J Trop Med Hyg.* 2001;64:270-273.
3. Chemlal K, Huys G, Fonteyne PA, Vincent V, Lopez AG, Rigouts L, Swings J, Meyers WM, Portaels F. Evaluation of PCR-restriction profile analysis and IS2402 restriction fragment length polymorphism and amplified fragment length polymorphism fingerprinting for identification and typing of *Mycobacterium ulcerans* and *M marinum*. *J Clin Microbiol.* 2001;39:3272-3278.
4. Moshari A, McLean IW, Dodds MT, Damiano RE, McEvoy PL. Chorioretinitis after keratitis caused by *Acanthamoeba*: case report and review of the literature. *Ophthalmology.* 2001;108:2232-2236.

Abstract

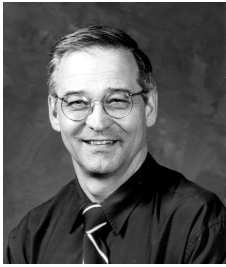
1. Baird JK, Purnomo, Bangs MJ, McCutchan T, Rathore D, Jones TR, Collins WC, Neafie RC, Tiwari T, Fryauff DJ, Hoffman SL. *Plasmodium* sp causing human disease in Guyana and Guatemala. *Am J Trop Med Hyg.* 2001;65:363. Abstract 629.
2. Fisher SI, Abbondanzo SL, Thompson LDR, Aguilera NS, Chu WS, Gulley ML, Nelson A. HIV-associated Hodgkin's disease: a histologic and immunophenotypic evaluation of 47 cases including antigenic expression of fascin, bcl-xL, bcl-2, bcl-6 and CD138/syndecan-1. *Mod Pathol.* 2001;14:184A. Abstract 1083.
3. Hiatt KM, Nelson AM, Lichy JH, Fanburg-Smith JC. Classic Kaposi sarcoma over the last two decades: a clinicopathologic and molecular study of 438 HIV-negative patients. *Mod Pathol.* 2001;14:13A. Abstract 54.

Other Publications

Portaels F, Johnson P, Meyers WM, eds *Buruli Ulcer: Diagnosis of Mycobacterium ulcerans Disease. A Manual for Health Care Providers*. Geneva, Switzerland: World Health Organization; 2001. Monograph.

Book Chapters

1. Meyers WM. Leprosy. In: Guerrant, Walker, and Walker, eds. *Tropical Infectious Diseases: Principles, Pathogens, and Practice*. Vol 1. Philadelphia, Pa: Churchill Livingstone; 2001:474-485.
2. Meyers WM. Leprosy. In: Guerrant, Walker, and Walker, eds. *Essentials of Tropical Infectious Disease*. Philadelphia, Pa: Churchill Livingstone; 2001:221-227.
3. Portaels F, Chemlal K, Elsen P, Johnson PDR, Hayman JA, Hibble J, Kirkwood R, Meyers WM. *Mycobacterium ulcerans* in wild animals. In: Dilmitis GS, ed. *Mycobacterial Infections in Domestic and Wild Animals*. Paris, France: Scientific and Technical Review, Office International des Epizooties; 2001:252-264.



Ted L. Hadfield, LtCol, USAF, BSC, Ret
Distinguished Scientist
Chief
Date of Appointment — April 1989



DIVISION OF MICROBIOLOGY

MISSION

The Division of Microbiology conducts research in the development of rapid, sensitive molecular assays to identify infectious agents in the laboratory or in the field. This effort has 6 components: (1) development of PCR assays employing fluorescent real-time technology for identification of biologic warfare agents from environmental and medical specimens; (2) identification of bacteria observed in paraffin-embedded tissues; (3) fingerprinting of bacterial agents using amplified fragment length polymorphism (AFLP); (4) support for the biosensors program; (5) Brucella vaccine development; and (6) consultations on infectious diseases. The division supports educational efforts by presenting seminars and lecturing at courses.

ORGANIZATION

The division is organized into 2 branches and the Office of the Chief.

1. Genetic Analysis, Branch—Michael Dobson, CDR, USN, MSC
2. Biotechnology Development Branch—Michael Dempsey, Capt, USAF, BSC

STAFF

Normita Bravo, Maj, USAF, BSC
Michael Dempsey, Capt, USAF, BSC
John David, LT, MSC, USN
Michael Dobson, CMDR, MSC, USN
(D) Robert Zagorski, Sgt, Research Assistant
(D) Kevin Dysinger, HM2, Research Assistant
Mina Izadjoo, PhD, ARP
Binxue Zhang, MD, PhD, ARP
Joseph Thompson, Research Assistant/Animal Caretaker, ARP
Marie Ellen D'Nicuola, BS, Medical Technologist, ARP
Adrian Ravizee, Research Assistant, ARP
Robert Burgess, Microbiologist, ARP
Elizabeth Harvell, Laboratory Worker, VA
(A) Dana Kadavy, PhD
(A) Michelle Ekis, ASCP
(A) Ryan Bell, MS
(A) Dongxiang Xia
(A) Levi Horton

The division performed 21 molecular biology tests on 18 patients for Geographic Pathology. In addition, we identified 9 organisms for WRAMC and performed molecular fingerprinting for 3 suspected nosocomial incidents at Bethesda Naval Hospital.

On October 4th, anthrax was sent through the US postal service to citizens in the news industry, and shortly after to government officials. We participated in the identification of anthrax-exposed patients and in testing of environmental samples for the presence of anthrax. Total samples tested by December 31 were 61 patient samples (30 positive for anthrax) and 2,496 environmental samples (17 positive for anthrax).

Our division developed 21 new molecular biology assays. The Mycobacteriology Branch continued development of fluorescent-labeled probe hydrolysis assays for several bacterial

agents considered to be biological warfare threats, including *Yersinia pestis*, *Burkholderia* sp, and Eastern equine encephalitis virus.

Impact:

1. We participated in the Joint Field Trials at Dugway Proving Grounds to demonstrate the efficacy of lyophilized reagents in the RAPID PCR thermal cyclers. Results were excellent.
2. AFIP was used as a test site for an Office of the Secretary of Defense exercise related to biological treaty.

Deployments:

TL Hadfield:

1. January 10, 2001, MOLART Meeting (Biowarfare Conference)
2. January 25, 2001, Signature Conference
3. February 4-7, 2001, DARPA Conference
4. February 20-22, 2001, Biological Inspector Training
5. March 26-April 6, 2001, Joint Field Trials at Dugway, Utah
6. March 7-12, 2001, SAFMLS
7. May 14-17, 2001, Quality Assurance Laboratory Assessment-PBF
8. July 19-30, 2001, Moscow, Russia, Vaccine Project
9. July 9-11, 2001, Quality Assurance Laboratory Assessment-BMI
10. December 5, 6, 2001, Falcon Meeting

John C. David:

1. February 12-16, 2001, MASINT, Eglin AFB
2. February 20-22, 2001, Inspector Training, Dulles West
3. March 11-12, 2001, IPR, Melbourne, FL
4. April 7-11, 2001, SAFMLS, Houston, Tex
5. May 17-19, 2001, IPR, Melbourne, Fla
6. May 20-24, 2001, ASM, Orlando, Fla
7. June 19-20, 2001, QA Meeting, McLean, Va
8. June 21, 2001, S3I, Owings Mills, Md
9. August 27-28, 2001, SWDG, Virginia Beach, Va
10. October 2-3, 2001, QA Meeting, McLean, Va
11. October 5-19, 2001, CTR Effort, Stepnogorsk, Kz
12. December 5-6, 2001, Falcon Meeting

Robert Crawford:

1. February 12-16, 2001, MASINT, Eglin AFB
2. March 11-12, 2001, IPR, Melbourne Fla
3. June 19-20, 2001, QA Meeting, McLean Va
4. October 2-3, 2001, QA Meeting, McLean Va
5. December 5-6, 2001, Falcon Meeting, Palm Bay

Mike Dempsey:

1. February 1, 2001, MASINT Ft Walton Beach, Fla
2. March/Apr 1, 2001, JFT, DPG, Utah
3. April/May 1, 2001, Medical NBC Readiness Conference, Norfolk, Va
4. September 1, 2001, CBAWS Validation Trials, DPG, Utah

Meetings Attended by Staff:

1. American Society for Microbiology; Hadfield, Dobson, Crawford, David, Zhang, Xia, Dempsey, Bell
2. SAFMLS; Burgess, Thomas, David, Bravo
3. MASINT; Hadfield, David, Crawford, Dempsey

EDUCATION

Presentations and Seminars: Division staff made 5 presentations at professional meetings and conferences, totaling 260 man-hours. A complete list of dates and titles appears at the end of this report.

Courses and Workshops: In 2001, Dr. Hadfield and staff gave educational presentations totaling 260 man-hours.

Trainees: Our division had 2 trainees (Air Force Academy students) in 2001, for a total of 288 training hours.

RESEARCH

Publications: Division staff published 3 journal articles and 10 abstracts in 2001. Complete bibliographical listings are listed at the end of this report.

Projects: The division maintained 11 research projects in 2001, as described below:

1. Development of fluorescent-labeled probe hydrolysis assays for pathogens such as West Nile virus, *Yersinia pestis*, *Burkholderia*, *Brucella*, and *Variola*
2. Development of fluorescent-labeled probe hydrolysis assays for RNA viruses
3. Development of FRET assays for *Brucella*, *Yersinia*, *Francisella*, EEE, VEE, WEE
4. Fingerprinting of infectious agents, particularly *Brucella*, *Francisella* and *Bacillus anthracis*
5. The division continues to develop a *Brucella* vaccine
6. Population and maintenance of PCR database
7. Multicenter testing of PCR assays
8. Nanogen chip analysis for biologic threat agents
9. DTRA-CRDF Russian-based vaccine project
10. Validation of laboratory response network reagents (CDC)
11. Quality assurance testing for Air Force PCR reagents

OTHER ACCOMPLISHMENTS

Collaborators:

Military:

1. David Sickenberger, SBCCOM (ERDEC), Edgewood Proving Grounds
2. Michael Goode, SBCCOM (ERDEC), Edgewood Proving Grounds
3. Holly Franz, LtCol, USAF, Air Force Academy
4. David Hoover, COL, MC, USA, WRAIR
5. Luther Lindler, PhD, WRAIR
6. Eric Henchal, PhD, John Ezzell, PhD, Sophie Ibrahim, PhD, USAMRIID
7. Dan Martin, PhD, Dugway Proving Ground
8. Kent Lohman, PhD, Brooks AFB
9. Diane Calimlum, Wilford Hall Medical Center
10. Debbie Neimeyer, LtCol, USAF, Joint Program Office

Civilian:

1. Kent Vorhees, PhD, Franco Basila, PhD, Angelo Madonna, Colorado School of Mines
2. Wayne Griess, PhD, Steve Lambert, Arpad Vass, PhD, Oakridge National Laboratories
3. Paul Jackson, PhD, Los Alamos National Labs
4. Paul Kiem, PhD, Northern Arizona University, Ariz
5. Kurt Peterson, Deepika DeSilva, Randy Rassmussman, Idaho Technologies
6. Alan Samules, Edgewood Proving Grounds
7. Steve Olsen, USDA, *Brucella* isolated from wildlife in Yellowstone Park
8. Bill Williams, Development of a vesicular stomatitis virus PCR assay, University of Wyoming
9. Linda Canis, Development of a herpes simplex 1 and 2 virus assay for detection of HSV in cerebral spinal fluid, Brooks AFB

International:

All studies on Buruli ulcer were carried out in collaboration with the following entities:

1. Macedonian Army Medical Center, Microbiology Division, PCR Diagnosis of *Brucella* in Blood
2. Surpekov Research Center for Toxicology and Hygienic Regulation of Biopreparations; *Brucella* Vaccine for Bison

Committees (Extramural):

TL Hadfield:

1. Consultant, Signature Characterization (of Biological Agents), Patrick AFB
2. Member, Executive Committee for Common Medical Diagnostic Systems (for BWAs)
3. Member, American Public Health Association Bioterrorism Defense Panel (CDC-APHL-sponsored)
4. Panel member, Defense Technology Objective for PCR
5. Panel member, Computer-Based Training Committee, USAF

Committees and Boards (Intramural):

1. Biosafety Committee — John David
2. Quality Assurance Committee — Ted Hadfield
4. Defense Technology Objective Committee — Ted Hadfield
5. Facility Official/Manager for BSL-3 Laboratories, AFIP — Ted Hadfield
6. AFIP BSL-3 Responsible Official — Ted Hadfield
7. AFIP BSL-3 Certifying Official — Ted Hadfield
8. LACUC — Ted Hadfield

PRESENTATIONS

1. January 31, 2001: Hadfield TL, Zhang B, David J, Dempsey M, RAPID Real-Time PCR,. University of Maryland, Baltimore (Medical School). (~40 people, 1.5 hours)
2. February 9, 2001: Hadfield TL, Zhang B, David J, Dempsey M, RAPID PCR Capabilities in the Military, Uniformed Services University of Health Sciences. (~25 people, 1 hour)
3. February 14, 2001: Hadfield TL, Crawford R, MASINT Database Review, MASINT Annual Meeting, Ft Walton Beach, Fla. (~200 people, 30 minutes)
4. February 16, 2001: David J, Crawford R, Hadfield TL, Multicenter Study for Validation of PCR Reagents, *Bacillus anthracis* assays, PA, Lef, Ef, CapA, Sasp B, Eglin AFB, Ft Walton Beach, Fla. (~75 people, 1 hour)
5. Emanuel P, Hadfield TL, Kiipman R, Richards J, Benett W, Stratton P, Hadley D, Milanovich F, Valdes JJ, Detection of Pathogens Using a Hand-held PCR Thermacycler.

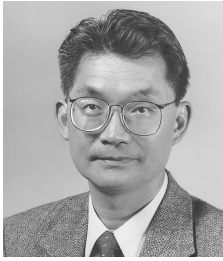
PUBLICATIONS

1. Fernandez-Prada CM, Nikolick M, Vemulapalli R, Sriranganathan N, Boyle SM, Schurig GG, Hadfield TL, Hoover DL. Deletion of *wboA* enhances activation of the lectin pathway of complement in *Brucella abortus* and *Brucella melitensis*. *Infect Immun*. 2001;69:4407-4416.
2. Hadfield TL, Turell M, Dempsey MP, David J, Park EJ. Detection of West Nile virus in mosquitoes by RT-PCR. *Mol Cell Probes*. 2001;15:147-150.
3. Mense MG, Van De Verg LL, Bhattacharjee AK, Garrett JL, Hart JA, Lindler LE, Hadfield TL, Hoover DL. Bacteriologic and histologic features in mice after intranasal inoculation of *Brucella melitensis*. *Am J Vet Res*. 2001;62:398-405.

Abstracts

1. Zhang B, Dempsey M, Hadfield TL, D'Silva D, Ritter T, Caplin B, Rasmussen R. Comparison of TaqMan and FRET probes for identification of *Bacillus anthracis*. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April 8-11, 2001; Houston, Tex.
2. Thomas W, Burgess R, David J, Hadfield T. Comparison of Vitek® 32 and Microlog® ML3 Systems for identification of select biological warfare agents. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April 8-11, 2001; Houston, Tex.
3. Bell R, David J, Burgess R, Thomas W, Hadfield TL. PCR-based assay for the rapid identification of *Bacillus anthracis* from clinical samples. Society of Armed Forces Medical Labora-

- tory Scientists Annual Meeting; April 8-11, 2001; Houston, Tex.
4. Dobson ME, David JC, Weyant RC, Zhang B, Hadfield TL. Molecular fingerprinting using AFLP for temporally dispersed *Brucella* from Illinois. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April 8-11, 2001; Houston, Tex.
5. Zhang B, Dempsey M, Hadfield TL, D'Silva D, Ritter T, Caplin B, Rasmussen R. Comparison of TaqMan and FRET probes for identification of *Bacillus anthracis*. American Society for Microbiology; May 20-24, 2001; Orlando, Fla.
6. Thomas W, Burgess R, David J, Hadfield TL. Comparison of Vitek® 32 and Microlog® ML3 Systems for identification of select biological warfare agents. American Society for Microbiology; May 20-24, 2001; Orlando, Fla.
7. Bell R, David J, Burgess R, Thomas W, Hadfield TL. PCR-based assay for the rapid identification of *Bacillus anthracis* from clinical samples. American Society for Microbiology; May 20-24, 2001; Orlando, Fla.
8. Dobson ME, David JC, Weyant RC, Zhang B, Hadfield TL. Molecular fingerprinting using AFLP for temporally dispersed *Brucella* from Illinois. American Society for Microbiology; May 20-24, 2001; Orlando, Fla.
9. Taleski V, Hadfield TL, David J, Zhang B, Stojkoski S, Sopovski E, Grkov V, Srbinoska A, Aleksoski A, Murgoska T, Petrovski V, Kamceva M, Nikoloska O, Zezoski M, Nastovski D, Zafirovski B. Molecular detection of *Brucella melitensis* in human peripheral blood samples with RAPID-PCR (Lightcycler). 2nd Croatian Congress of Microbiology; October 3-6, 2001; Brijuni, Croatia.
10. Taleski V, Nikolovski B, Sopovski E, Hadfield TL, David J, Zhang B. RAPID-PCR (Lightcycler) in diagnosis of biological agents. Abstract #46. World Congress on Chemical and Biological Terrorism; April 22-27, 2001; Dubrovnik, Croatia.



Shyh-Ching Lo, MD, PhD
Chief
Date of Appointment — 2 May 1991



DIVISION OF MOLECULAR PATHOBIOLOGY

MISSION

The Division of Molecular Pathobiology provides consultation services to the AFIP, other federal agencies, civilian institutions, clinicians, and research scientists on the pathology of unusual infections, especially by mycoplasmas, chlamydias, and viruses. We provide consultation on electron-microscopic diagnosis and studies of bacteria, viruses, and mycoplasmas, on various disease processes related to infections by microorganisms, and on molecular techniques in diagnosis and research. We support the AFIP's educational program by providing lectures, courses, and training for visiting scientists, fellows, and students.

STAFF

Medical:

Shyh-Ching Lo, MD, PhD, Division Chief

Scientific:

Susan Ditty, BA, Research Microbiologist, ARP

Shaw-Huey Feng, PhD, Immunologist/Scientist, ARP

Christine L.D. Haley, BS, Molecular Biology Technician, ARP

Bing-Jie Li, MD, Molecular Microbiologist, ARP

José Rodriguez, Research Technician, ARP

Shien Tsai, PhD, Senior Research Scientist, ARP

Shimin Zhang, MD, PhD, Senior Research Scientist, ARP

(A) Zou Nianxiang, PhD, Research Scientist, ARP

EDUCATION

Presentations and Seminars: Division staff gave 4 presentations in 2001, for a total of 245 man-hours. Dates and titles are listed at the end of this report.

CONSULTATION

The division was in charge of serological evaluation of 3,000 Gulf War veterans for antibodies specific for 3 different human mycoplasmas. The results and analyses were presented to the Army and published in a peer-reviewed medical journal. In addition, the division consulted with the Army on the evaluation of current molecular diagnostic techniques of mycoplasmal infections in veterans with "Gulf War illness." The study used coded blood samples from 50 patients and 4 different PCR protocols, as well as a highly unusual chromatin fractionation method.

RESEARCH

Publications: Division staff published 3 journal articles and 2 abstracts in 2001. Complete references are listed at the end of this report.

Projects: The division maintained 6 research projects in 2001, as listed below:

1. Support for DoD studies to verify various assays for detecting infections by mycoplasmas in veterans with Gulf War illness
2. Investigational studies of pathogenesis of a newly found human mycoplasma in mice
3. Effect of mycoplasmas on steroid receptor function
4. Gene expression change in human prostate and cervical epithelial cells induced by acute and chronic mycoplasmal infections

5. Molecular mechanisms associated with mycoplasma-mediated malignant cell transformation
6. Mycoplasmal infection and immortalization of human peripheral blood mononuclear cells

Impact:

Summary: Research Program through 2001:

1. *M fermentans* has been proposed as the cause of Gulf War illness; however, our serological and molecular diagnostic studies argue against the possibility.
2. We were the first to demonstrate that chronic infection with mycoplasma could lead to malignant transformation of mammalian cells.
3. We developed a model system demonstrating a new molecular mechanism leading to cancer.
4. We identified a mycoplasmal membrane component that has antiapoptotic effects and can induce immortalization of mammalian cells.
5. Our laboratory pioneered the study of mycoplasmal effects on the alteration of gene expression in infected mammalian cells.
6. We successfully immortalized human peripheral blood mononuclear cells.

PRESENTATIONS

1. May 2001: Orlando, Fla, 101st General Meeting of the American Society for Microbiology, "Expression of cyclins and cyclin dependent kinases in mycoplasma-infected and mycoplasma-transformed 32D cells," S Zhang, S-C Lo.
2. May 2001: Orlando, Fla, 101st General Meeting of the American Society for Microbiology, "Mycoplasma culture medium SP4 blocks gene transfer into eukaryotic cells using the calcium phosphate method," S Zhang, S-C Lo.
3. May 2001: Orlando, Fla, 101st General Meeting of the American Society for Microbiology, Invited Symposium Speaker, "Mycoplasma infections: effects on apoptosis, genetic stability and transformation of cells," S-C Lo.
4. October 2001: Washington, DC, AFIP Professional Staff Conference, "Chronic diseases with infectious roots: conjecture waiting for proof," S-C Lo.

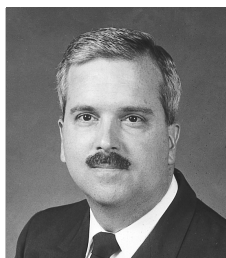
PUBLICATIONS

Journal Articles

1. Zhang S, Lu J, Iyama K, Lo, S-C, Danielsen M. A simplified method for large scale quantification of transcriptional activity and its use in studies of steroids and steroid receptors. *J Recept Signal Transduct Res*. 2001;21:71-84.
2. Iyama K, Zhang S, Lo S-C. Effects of mycoplasmal LAMPs on receptor responses to steroid hormones in mammalian cells. *Curr Microbiol*. 2001;43:163-169.
3. Chen Z, Smith KJ, Skelton HG 3rd, Barrett TL, Greenway HT Jr, Lo S-C. Telomerase activity in Kaposi's sarcoma, squamous cell carcinoma, and basal cell carcinoma. *Exp Biol Med (Maywood)*. 2001;226:753-757.

Abstracts

1. Zhang S, Lo S-C. Expression of cyclins and cyclin dependent kinases in mycoplasma-infected and mycoplasma-transformed 32D cells. *Abstracts of the 101st General Meeting of the American Society for Microbiology*. Orlando, Fla: American Society for Microbiology; 2001:385. Abstract G-1.
2. Zhang S, Lo S-C. Mycoplasma culture medium SP4 blocks gene transfer into eukaryotic cells using the calcium phosphate method. *Abstracts of the 101st General Meeting of the American Society for Microbiology*. Orlando, Fla: American Society for Microbiology; 2001:390. Abstract G-25.



Kelly K. Koeller, CAPT, MC, USN
Chair
Date of Appointment — 8 January 2001



DEPARTMENT OF RADIOLOGIC PATHOLOGY

MISSION

The Department of Radiologic Pathology provides preeminent educational programs, research, and consultation services to the Armed Forces Institute of Pathology, the Department of Defense, and the global medical community, using a unique archive of radiologic and pathologic material.

ORGANIZATION

The department is organized into 6 sections and the Office of the Chair.

1. Gastrointestinal Radiology
2. Genitourinary Radiology
3. Musculoskeletal Radiology
4. Neuroradiology
5. Pediatric Radiology
6. Pulmonary and Mediastinal Radiology

STAFF

Medical:

- Aletta A. Frazier, MD, Medical Illustrator, ARP
Jeffrey R. Galvin, MD, Chief, Pulmonary and Mediastinal Radiology, ARP
Kelly K. Koeller, CAPT, MC, USN, Chair and Chief, Neuroradiology
Angela D. Levy, LTC, MC, USA, Chief, Genitourinary Radiology
Gael J. Loneragan, Lt Col, USAF, MC, Course Director and Chief, Pediatric Radiology, MOU-USUHS
(A) Kambiz Motamedi, MD, Junior Scientist, Musculoskeletal Radiology, ARP
Mark D. Murphey, MD, Chief, Musculoskeletal Radiology, ARP
(D) George C. Nomikos, MD, Junior Scientist, Musculoskeletal Radiology, ARP
(D) Charles A. Rohrmann, Jr, MD, Distinguished Scientist, Gastrointestinal Radiology, ARP
(D) Melissa L. Rosado de Christenson, Col, USAF, MC, Chair and Registrar
(A) Cornelia Schwab, MD, Junior Scientist, Genitourinary Radiology, ARP
(A) William M. Thompson, MD, Distinguished Scientist, ARP
Paula J. Woodward, MD, Chief, Genitourinary Radiology, ARP

Administrative:

- Janeth Amarillo, Digitization Specialist, ARP
(A) Christopher Buchanan, Administrative Assistant, ARP
Arnold M. Gittleson, Course Coordinator, ARP
Adahlia M. Glover, Case Manager, ARP
(D) Cindy M. McDonald, Digitization Technician, ARP
Kathy M. Rahimly, Case Manager, ARP, Part-time
(D) Mike Richard, Systems Manager, Contract Employee
(A) Annette Simpson, Systems Manager, Contract Employee
Earlene Turner, Weekend Course Coordinator, ARP

Alethia B. West, Case Management, Supervisor, ARP
Carl D. Williams, Course Coordinator and Categorical Course Coordinator, ARP

DIAGNOSTIC CONSULTATION

The department only conducts intramural radiologic consultation. Consultation was provided on 1,471 class cases (contributed by residents attending the 6 Radiologic Pathology Courses) and 396 cases submitted by the various AFIP pathology departments.

EDUCATION

Presentations and Seminars: Department staff provided 402 presentations in 2001. A complete list is provided at the end of the report.

Departmental Conferences: 444 departmental conferences were conducted during the year as outlined below:

Intramural:

Gastrointestinal Radiology:

- 2 (2 hours) per month, Gastrointestinal Pathology Conferences
- 1 (1.5 hour) per month, Endocrine Pathology Conference
- 2 (2 hour) annually, Hematopathology Conferences
- 1 (1hour) per month, Hepatic Pathology Conference

Genitourinary Radiology:

- 3 (1hour) per month, Genitourinary Pathology Conferences
- 1 (1 hour) per month, Endocrine Pathology Conference

Musculoskeletal Radiology:

- 16 (1 hour) per month, Orthopedic Pathology Conferences
- 4 (1 hour) per month, Soft Tissue Pathology Conferences
- 4 (1 hour) per year, Oral and Maxillofacial Pathology Conferences

Neuroradiology:

- 3 (1.5 hours) per month, Neuropathology Conferences
- 2 (1 hour) per month, Otolaryngic Pathology Conferences

Pediatric Radiology:

- 1 (2 hours) per month, Pediatric Pathology Conference
- 1 (1 hour) per month, Pulmonary and Mediastinal Pathology Conference

Pulmonary and Mediastinal Radiology:

- 2 (2 hours) per month, Pulmonary and Mediastinal Pathology Conferences
- 6 (1 hour) per year, Cardiovascular Pathology Conferences

Extramural:

Genitourinary Radiology:

- 4 (1 hour) per month, Resident and Fellow Conferences, University of Maryland Medical Center

Musculoskeletal Radiology:

- 4 (1.5 hours) per month, Orthopedic Oncology/Radiology Conferences, National Institutes of Health
- 4 (1.5 hours) per month, Orthopedic Resident Conferences, Walter Reed Army Medical Center
- 5 (1 hour) per month, Rheumatology Conferences, Walter Reed Army Medical Center
- 1 (1 hour) conference per month, National Institutes of Health
- 1 (1 hour) conference per month, Washington Hospital Center
- 1 (1 hour) conference per month, Radiology Resident Conference, University of Maryland Medical Center
- 4 (1 hour) conferences per month, Orthopedic Oncology/Radiology/Pathology Conferences, Sinai Medical Center, Baltimore, Md
- 1 (1 hour) conference per month, Walter Reed Army Medical Center
- 2 (1 hour) per month, Spine Trauma Conferences, University of Maryland Medical Center
- 2 (1 hour) per month, Radiology Resident Teaching Conferences, Walter Reed Army Medical Center, Georgetown University, National Naval Medical Center, and Howard University

4 (1 hour) per year, Sports Medicine Conferences, National Naval Medical Center
 Seminars: 252 seminars were conducted:

Gastrointestinal Radiology:

2 (1 hour) per year, Department of Radiology, Walter Reed Army Medical Center

26 (1 hour) per year, Department of Radiology, Uniformed Services University of the Health Sciences

1 (1 hour) per year, Department of Radiology, Walter Reed Army Medical Center

2 (1 hour) per year, Department of Gastroenterology, Walter Reed Army Medical Center

Genitourinary Radiology:

1 (1 hour) per week, University of Maryland resident and fellow conference

Musculoskeletal Radiology:

1 (1 hour) per month, National Naval Medical Center

1 (1 hour) bimonthly, University of Maryland Medical Center

2 (1 hour) per month, Rheumatology Department, Walter Reed Army Medical Center

1 (1 hour) per month, Washington Hospital Center

1 (1 hour) per month, National Institutes of Health

2 (1 hour) per year, Radiology Department, Walter Reed Army Medical Center

8 (1 hour) per year, Uniformed Services University of the Health Sciences

Neuroradiology:

1 (1 hour) per year, Walter Reed Army Medical Center

1 (1 hour) per year, National Naval Medical Center

1 (1 hour) per year, Uniformed Services University of the Health Sciences

Pediatric Radiology:

3 (1 hour) per year, National Naval Medical Center

3 (1 hour) per year, Walter Reed Army Medical Center

48 (1 hour) per year, Uniformed Services University of the Health Sciences

Pulmonary and Mediastinal Radiology:

12 (1 hour) per year, Uniformed Services University of the Health Sciences

6 (1 hour) per year, National Naval Medical Center

3 (1 hour) per year, George Washington University Medical Center

4 (1 hour) per year, Georgetown Medical Center

6 (1 hour) per year, Walter Reed Army Medical Center

5 (1 hour) per year, University of Maryland Medical Center

Workshops: The staff participated in the following workshop:

December 2001, Workshop: "Correlation between high-resolution CT and histologic findings in the setting of interstitial lung disease," AFIP, Washington, DC, Galvin JR.

Courses:

1. *AFIP Courses in Collaboration with Foreign Radiological Societies:* Six international short courses were held in Spain, Austria, Portugal, Germany, Brazil, France, Canada, and Mexico. These courses were sponsored by the radiological societies of the host countries in association with the AFIP and the ARP. The Department of Radiologic Pathology provided the curriculum and faculty. Courses held in France, Brazil, and Canada were large scientific assemblies and annual meetings of the radiological societies of these countries and featured the Department of Radiologic Pathology as a specific section on Radiologic-Pathologic Correlation within the course curriculum. Courses held at Spain, Austria, Portugal, Germany, and Mexico were provided entirely by the staff of the Department of Radiologic Pathology, in collaboration with the appropriate national radiological societies. These courses ensured dissemination of the principles of radiologic-pathologic correlation to radiologists and physicians who do not traditionally participate in the department's Radiologic Pathology Courses. The courses were extremely well-received and will be offered annually. See exact listing of lectures under "PRESENTATIONS."

2. *AFIP Radiologic Pathology Courses:*

• 6-week Radiologic Pathology Course: With the cancellation of the September 2001 course in the aftermath of the terrorist attacks in New York and Washington, only 4 courses were

conducted in 2001, which were attended by 804 radiology residents (32 federal, 772 nonfederal). Approximately 116 man-days of training were provided. Nearly all of the residents originally scheduled for the September 2001 course were rescheduled for future courses to be held in 2002. The course remains subscribed nearly 2 years in advance and is attended by the vast majority of diagnostic radiology residents in the United States. Seventy-three residents from other countries also attend. The Radiologic Pathology Course is also offered to radiologists who have completed their training.

- 1-week categorical courses (held within the 6-week Radiologic Pathology Courses): 5 courses were offered in Pulmonary and Mediastinal Radiology, Gastrointestinal Radiology, Genitourinary Radiology, Neuroradiology, and Musculoskeletal Radiology attended by 128 radiologists, providing approximately 178 hours of CME credit. The Pediatric Radiology categorical course did not take place, as a result of cancellation of the September 2001 6-week course.

<i>Course</i>	<i>Enrollment</i>	<i>Man-Days</i>
Thoracic Radiology	23	115
Gastrointestinal Radiology	20	100
Genitourinary Radiology	10	50
Musculoskeletal Radiology	38	190
Neuroradiology	37	185
Pediatric Radiology (cancelled as part of September 2001 course)		

- Weekend courses: 5 courses were provided. A total of 492 physicians attended for a total of 984 attendee-days and 72.5 hours of CME credit.

<i>Course</i>	<i>Enrollment</i>	<i>Man-Days</i>
Uroradiology Case Studies (January)	127	254
Neuroradiology Washington	173	346
Musculoskeletal Radiology	43	86
Uroradiology Case Studies (May)	98	196
Neuroradiology San Diego	51	102

3. Radiologic Pathology Participation in Courses Held By Other AFIP Departments: The staff of the Department of Radiologic Pathology provided lectures in courses held by Pulmonary and Mediastinal Pathology and Forensic Pathology.

Trainees: Fellowships are held from July 1 to June 30 of the following year in the Department of Radiologic Pathology and are called “junior scientist” positions. In addition, research assistants collaborate on various projects with the department’s medical staff. In calendar year 2001, the department hosted 3 junior scientists.

RESEARCH

Research is based on the contents of the departmental archives, which are mainly derived from cases contributed by residents attending the Radiologic Pathology Courses. There were 3 investigative research projects and 15 educational research projects in progress in 2000.

Publications: The department published 22 journal articles, 15 abstracts, and 1 other publication in 2001. A complete listing appears at the end of this report.

Projects:

Investigative:

1. Lonergan GJ: Comparison of Fracture Age Dating at Radiology versus Histology
2. Rosado de Christenson ML: Survey of Radiology Residents’ Lifestyles
3. Lonergan GJ: Cystic Extralobar Sequestration: Correlation with Associated Cystic Adenomatoid Malformation

Educational:

1. Koeller KK, Roa Martinez E: Glial Neoplasms: Radiologic-Pathologic Correlation
2. Koeller KK: Superficial Glial Neoplasms: Radiologic-Pathologic Correlation
3. Levy AD: Benign Tumors of the Gallbladder and Extrahepatic Bile Ducts: Radiologic Pathologic Correlation
4. Levy AD: The Sonographic Appearance and Detectability of Nonopaque and Semiopaque Materials of Military Origin
5. Levy AD: Choledochal Cysts: Imaging Classification with Pathologic Correlation
6. Levy AD: The Sonographic Appearance and Detectability of Nonopaque and Semiopaque

Materials of Military Origin with a Handheld Ultrasound Device

7. Levy AD: Appendiceal Neoplasms
8. Levy AD: Caroli Disease: Spectrum of Imaging Features with Pathologic Correlation
9. Lonergan GJ: Sick Cell Anemia.
10. Rosado de Christenson ML, Galvin, JR: Fibrosing Mediastinitis
11. Woodward PJ: Endometriosis: Radiologic-Pathologic Correlation
12. Woodward PJ: Mullerian Duct Anomalies Complicated by Obstruction: Evaluation with Pelvic Magnetic Resonance Imaging

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

- Department of Radiology and Nuclear Medicine, Uniformed Services University of the Health Sciences
- Robert M. Abbott, Maj, USAF, MC, Wilford Hall Medical Center, San Antonio, Tex
- H. Theodore Harcke, COL, MC, USNG, E.I. duPont Hospital for Children, Wilmington, Del
- David E. Grayson, Capt, USAF, MC, Wilford Hall Medical Center, San Antonio, Tex
- Perry J. Pickhardt, LCDR, MC, USNR, National Naval Medical Center, Bethesda, Md

Civilian:

- Department of Radiology, University of Maryland Medical Center
- American College of Radiology
- Association of Program Directors in Radiology
- American Osteopathic College of Radiology
- Association of University Radiologists
- American Roentgen Ray Society
- Radiological Society of North America
- Charles A. Rohrmann, Jr, MD, University of Washington, Seattle, Wash
- Pablo R. Ros, MD, MPH, Brigham and Women's Hospital, Harvard University, Boston, Mass
- William H. Thompson, MD, Duke University, Durham, NC

International:

- Society of Mexican Radiologic Imaging, Mexico City, Mexico
- Fundación XIII Congreso Internacional de Radiologica, Madrid, Spain
- Curso de Correlacao Anatomo-Radiologica, Lisbon, Portugal
- Jornada Paulista de Radiologica, Sao Paulo, Brazil
- Journées Française de Radiologie, Paris, France
- Canadian Association of Radiology, Vancouver, BC, Canada

Honors:

- Nominated for the Fleischner Society, Galvin JR.
- Relief Examiner, Cardiopulmonary Category, American Board of Radiology, Oral Examination, Louisville, Ky, May 2001, Rosado de Christenson ML.
- Certificate of Merit Award. Scientific Exhibit. Appendiceal Neoplasms Presenting as Acute Appendicitis: CT Findings with Pathologic Correlation. Radiological Society of North America, 87th Scientific Assembly and Annual Meeting. November 24-30, 2001, Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI.

Named Lectures:

October 5, 2001, "The Idiopathic Interstitial Pneumonias," 30th Annual Meeting of the Japanese Association of Tomography at Okayama, Okayama, Japan, Galvin JR.

Committees:

Koeller KK:

- Member, Oversight Committee for CME, Armed Forces Institute of Pathology
- Member, Learning File Development Committee, American College of Radiology
- Member, Scientific Exhibit Committee, American Society of Neuroradiology

- Member, Audio-visual Committee, American Society of Neuroradiology
- Moderator, American Society of Neuroradiology 39th Annual Meeting, April 21-27, 2001, Boston, Mass
- Member, Tissue Utilization Committee, Armed Forces Institute of Pathology
- Member, Center for Advanced Pathology Advisory Council and Executive Committee of the Medical Staff, Armed Forces Institute of Pathology

Lonergan GJ:

- Member, Program Committee, Society of Pediatric Radiology

Murphey MD:

- Member, RadioGraphics Exhibit Review Committee, Musculoskeletal Section, Radiological Society of North America
- Member, CPI/Musculoskeletal Radiology Expert Review Panel, American College of Radiology
- Moderator, 28th Annual Refresher Course of the International Skeletal Society, Quebec City, Quebec
- Moderator, Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill

Rosado de Christenson ML:

- Member, International Committee, American Association for Women Radiologists
- Member, Web Site Committee, American Association for Women Radiologists
- Member, Appropriateness Criteria Committee, American College of Radiology
- Member, Instructional Courses Committee, American Roentgen Ray Society
- Member, Education Committee, Association of Program Directors in Radiology
- Member, Executive Committee, Association of Program Directors in Radiology
- Member, Program Committee, Society of Thoracic Radiology
- Moderator, Scanlon Symposium: "Case of the Day," "Workshops, Track I," Society of Thoracic Radiology
- Member, Scientific Exhibits Committee, Radiological Society of North America
- Member, Educational Exhibits Committee, Radiological Society of North America
- Member, Multisystem/Special Interest Committee, Radiological Society of North America
- Member, Tissue Utilization Committee, Armed Forces Institute of Pathology
- Member, Library Working Group, Armed Forces Institute of Pathology
- Member, Center for Advanced Pathology Advisory Council and Executive Committee of the Medical Staff, Armed Forces Institute of Pathology

Woodward PJ:

- Member, Genitourinary Program Committee, Radiological Society of North American
- Moderator, Genitourinary Program, Radiological Society of North America 87th Annual Meeting

Offices Held:

Galvin JR:

- President, Society of Thoracic Radiology

Koeller KK:

- Audit Committee Chair, American Society of Neuroradiology
- Chair, Ad Hoc Committee on the AFIP, Association of Program Directors in Radiology
- Interim Secretary, Registrar's Forum, American Registry of Pathology

Rosado de Christenson ML:

- Chair, Continuous Professional Improvement - Chest, American College of Radiology
- Chair, Nominating Committee, American Association for Women Radiologists
- Cochair, Public Relations Committee, American Association for Women Radiologists
- Director, Research and Education Foundation, American Association for Women Radiologists
- Chair, Awards Committee, Society of Thoracic Radiology
- Director, Chest Radiology Track, American Roentgen Ray Society

- Chair, Multisystem/Special Interest Subcommittee, Scientific Exhibits Committee/Educational Exhibits Committee, Radiological Society of North America

Appointments:

Galvin JR:

- Clinical Professor, Department of Radiology, University of Maryland Medical System

Koeller KK:

- Assistant Professor of Radiology and Nuclear Medicine, Uniformed Services University of the Health Sciences
- Staff Radiologist, National Naval Medical Center

Levy AD:

- Department of Radiology, Walter Reed Army Medical Center
- Assistant Professor of Radiology and Nuclear Medicine, Uniformed Services University of the Health Sciences

Lonergan GJ:

- Associate Professor of Radiology and Nuclear Medicine and Pediatrics, Uniformed Services University of the Health Sciences
- Clinical Assistant Professor of Radiology, George Washington University School of Medicine

Murphey MD:

- Associate Professor, Radiology and Nuclear Medicine, Uniformed Services University of the Health Sciences
- Clinical Professor, Department of Radiology, University of Maryland School of Medicine

Rosado de Christenson ML:

- Associate Professor of Radiology and Nuclear Medicine, Uniformed Services University of the Health Sciences
- Staff Appointment, Department of Radiology, University of Maryland Medical System

Woodward PJ:

- Clinical Associate Professor of Radiology, University of Maryland School of Medicine
- Adjunct Associate Professor of Radiology, University of Utah School of Medicine

Editorial Boards:

Galvin JR:

- Associate Education Editor, *Radiographics*

Koeller KK:

- Editorial Board, *RadioGraphics*

Rosado de Christenson ML:

- Editorial Board, *RadioGraphics*
- Editorial Board, *Revista Mexicana de Radiología*
- Editor-in-Chief and Section Editor, Mediastinal Masses Section, *Chest Learning File*, American College of Radiology Institute
- Editorial Board, *Annals of Diagnostic Pathology*
- Editorial Board, *Gamuts in Radiology*
- Editorial Board, *Radiology*
- Editor-in-Chief, *FOCUS* (American Association for Women Radiologists newsletter)

Journal Reviews:

Galvin JR:

- Manuscript reviewer, *American Journal of Roentgenology*
- Manuscript reviewer, *RadioGraphics*

Koeller KK:

- Manuscript Reviewer, *RadioGraphics*

Lonergan GJ:

- Manuscript reviewer, *Radiology*

Levy AD:

- Manuscript reviewer, *RadioGraphics*

Murphey MD:

- Manuscript reviewer, *American Journal of Roentgenology*
- Manuscript reviewer, *Radiology*
- Manuscript reviewer, *RadioGraphics*
- Manuscript reviewer, *Skeletal Radiology*

Rosado de Christenson ML:

- Manuscript Reviewer, *RadioGraphics*
- Manuscript Reviewer, *Revista Mexicana de Radiologia*

Woodward PJ:

- Manuscript reviewer, *Journal of Magnetic Resonance*
- Manuscript reviewer, *Cancer*
- Manuscript reviewer, *International Journal of Radiation Oncology*
- Manuscript reviewer, *Ultrasound in Obstetrics and Gynecology*
- Manuscript reviewer, *RadioGraphics*

Continuing Education: All hours are Category I, except where noted.

Frazier AA: 30 hours – Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; 33 hours – Society of Thoracic Radiology's Thoracic Imaging 2001.

Galvin JR: 33 hours – Society of Thoracic Radiology's Thoracic Imaging 2001; 20 hours – Thoracic Pathology with Clinical and Radiologic Correlations

Koeller KK: 2 hours – Armed Forces Institute of Pathology; 3 hours – Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; 19.25 hours – American Society of Neuroradiology; 15 hours – Sixteenth Annual Washington Neuroradiology Review Course; 15 hours – 4th Annual AFIP Neuroradiology Weekend Review Course; 2.5 hours – World Class Radiology: National Diagnostic Imaging Symposium.

Loneragan GJ: 12 hours - Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; 24 hours – Forensic Anthropology.

Levy AD: 29.75 hours – Abdominal Radiology Postgraduate Course 2001; 1 hour – AFIP; 5 hours – Quality Assurance/Risk Management, Legal Medicine, AFIP; 9.75 hours – Radiological Society of North America, 87th Scientific Assembly and Annual Meeting.

Murphey MD: 24.5 hours – International Skeletal Society Annual Refresher Course; 30 hours – AFIP; 18.0 hours – Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; 11.75 hours – International Skeletal Society Members Only Closed Course; 14.75 hours – Society of Skeletal Radiology; 3 hours – American Roentgen Ray Society; 14.25 hours – International Institute for Continuing Medical Education. 8.0 hours – Review of Radiology Manuscripts

Rosado de Christenson ML: 33 hours – Society of Thoracic Radiology's Thoracic Imaging 2001; 9 hours - American Roentgen Ray Society 2001 Annual Scientific Meeting; 10.5 hours – Radiological Society of North America, 87th Scientific Assembly and Annual Meeting.

Woodward PJ: 22 hours – Genitourinary Radiology Course; 13.25 hours – Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; 3 hours – Maryland Department of Health.

PRESENTATIONS

Visiting Professorships:

1. April 11-13, 2001. "Fetal CNS Malformations," "Fetal Body Malformations," "GU Board Review," Baylor School of Medicine, Houston, Tex. Woodward PJ.
2. March 7-16, 2001. "Renal Mass Evaluation," "Advanced Fetal Imaging," "GU/US Board Review," University of Utah School of Medicine, Salt Lake City, Utah. Woodward PJ.
3. May 17, 2001. "MRI of the Female Pelvis," Oregon Radiologic Society, Portland, Ore. Woodward PJ.
4. September 6-7, 2001. "Fetal Anomalies Radiologic/Pathologic Correlation," "Genitourinary Trauma," "US Case Studies," University of New Mexico School of Medicine, Albuquerque, NM. Woodward PJ.
5. December 10-14, 2001. "Malignant Renal Masses," "Benign Renal Masses," "GU trauma," "US cases," University of Utah School of Medicine, Salt Lake City, Utah. Woodward PJ.
6. January 10-11, 2001. "Pleural Neoplasia," "Sarcoidosis," "Board Review," The Ohio State

University, Columbus, Ohio. Rosado de Christenson ML.

7. January 10, 2001. "Mediastinal Masses," Central Ohio Radiological Society, Columbus, Ohio. Rosado de Christenson ML.
8. May 24, 2001. "Board Review," Long Island College Hospital, Brooklyn, NY. Rosado de Christenson ML.
9. May 25, 2001. "Board Review," St. Vincent's Hospital and Medical Center of New York, New York, NY. Rosado de Christenson ML.

AFIP Courses:

Department of Radiologic Pathology Courses:

1. January 20, 2001. "Basics of Computed Tomography," "Basics of Ultrasound," "Solid Renal Masses," "Infiltrative Renal Masses," "MRI Case Studies." Uroradiology Review Course, Washington, DC. Woodward PJ.
2. January 20, 2001. "Congenital Genitourinary Disease," "Pediatric Uroradiology," Uroradiology Review Course, Washington DC. Loneragan GJ.
3. February 13 and 15, 2001. "MRI of the Female Pelvis: 1 and 2," "Spiral CT of Urinary Tract Disorders," "Imaging of the Scrotum," AFIP in Holland Meeting. Utrecht, The Netherlands. Woodward PJ.
4. February 13 and 15, 2001. "Radiology of Cystic Fibrosis," "Cystic Renal Disease of Childhood," "Renal Tumors of Childhood," AFIP in Holland Meeting. Utrecht, The Netherlands. Loneragan GJ.
5. February 17-18, 2001. "Acquired White Matter Diseases," "Spinal Cord Neoplasms," Fifteenth Annual Washington Neuroradiology Review Course, Bethesda, Md. Koeller KK.
6. May 26, 2001. "Pediatric Uroradiology Review," Uroradiology Review Course, Washington, DC. Loneragan GJ.
7. June 14-28, 2001, "Acquired White Matter Disease," "Imaging of the Suprahyoid Neck," "Congenital Cystic Neck Masses," "Neoplasms of the Spinal Cord and Filum Terminale," "Cerebral Ischemia: The Basics," "Congenital CNS Anomalies," Armed Forces Institute of Pathology in Europe Course, June 16-18, Lisbon, Portugal; June 20-23, Vienna, Austria; June 25-28, Madrid, Spain. Koeller KK.
8. June 14-28, 2001, "Critical Signs in Abdominal Plain Film Diagnosis I," "Critical Signs in Abdominal Plain Film Diagnosis II," "Congenital Disorders of the Bile Ducts," "Bile Duct Differential Diagnosis," "Radiology of Gastrointestinal Motility Disorders," "Radiology of Esophageal Motility Disorders," Armed Forces Institute of Pathology in Europe Course, June 16-18, Lisbon, Portugal; June 20-23, Vienna, Austria; June 25-28, Madrid, Spain. Rohrmann, CA Jr.
9. August 19, 2001, "Uncommon Neuroectodermal Neoplasms," "Neuroimaging Manifestations in the Immunocompromised Patient," Fourth Annual Armed Forces Institute of Pathology Neuroradiology Weekend Review Course, San Diego, Calif. Koeller KK.

Radiologic Pathology 6-Week Course Lectures: The following lectures were provided by Department of Radiologic Pathology staff in the 6-week Radiologic Pathology Course, held 4 times in 2001.

Galvin JR:

- An Approach to Diffuse Lung Disease I-II
- Lung Carcinoma: WHO classification
- Airway Disease I-II
- Staging of Lung Cancer
- Pulmonary Angiitis and Granulomatosis
- Pulmonary Hypertension and Infarction
- Imaging in Febrile Bone Marrow Transplant
- The Diagnosis of Pulmonary Embolism
- Inhalation Lung Disease
- Lymphoid Lesions
- Seminars in Chest Radiology

Koeller KK:

- Head Trauma
- Cerebral Ischemia
- Acquired White Matter Disease
- CNS Lymphoma
- Suprahyoid Neck
- Infrahyoid Neck
- Orbit I-II
- Congenital Cystic Neck Masses
- Temporal Bone I-II
- Congenital CNS Anomalies
- Seminars in Neuroradiology

Levy AD:

- Infectious and Parasitic Disease of the Abdomen I-II
- Gastric and Duodenal Malignant Neoplasms
- Abdominal Manifestations of Lymphoma
- Non-neoplastic Diseases of the Stomach
- Tumors of the Gallbladder and Biliary Tract
- The Appendix: Appendicitis and Beyond
- Gastrointestinal Polyposis Syndromes
- Seminars in Gastrointestinal Radiology

Lonergan GJ:

- Cranial Sonography
- Congenital Heart Disease I-IV
- Forensic Radiology of Child Abuse I-II
- Neonatal Lung Disease
- Cystic Fibrosis
- Cystic Renal Disease of Childhood
- Renal Tumors of Childhood
- Adrenal Tumors of Childhood I-II
- Radiology of Situs
- Pediatric Nuclear Medicine
- Sickle Cell Anemia
- Seminars in Pediatric Radiology

Murphey MD:

- Total Joint Replacement/Bone Graft
- Musculoskeletal Manifestations of Chronic Renal Insufficiency
- Musculoskeletal Neoplasm: Fundamental Concepts I-II
- Cartilaginous Lesions of Bone I-II
- Osseous Lesions of Bone I-II
- Fibrous Lesions of the Musculoskeletal System I-II
- Alphabet Soup: Cystic Lesions of Bone
- Juxta-articular Musculoskeletal Masses I-II
- Musculoskeletal Angiomatous Lesions
- Paget Disease
- Musculoskeletal Infections I-II
- Seminars in Musculoskeletal Radiology

Rosado de Christenson ML:

- Pleural Neoplasia
- Non-neoplastic Pleural Disease
- Pulmonary Metastases
- Mediastinal Masses I-III

- Tuberculosis
- Congenital Diseases of the Chest I-II
- Seminars in Chest Radiology

Woodward PJ:

- Uterine Disorders I-II
- Malignant Renal Masses
- Benign Renal Masses
- First Trimester Ultrasound
- Fetal CNS Malformations
- Retroperitoneum
- GU Trauma
- Seminars in Genitourinary Radiology

Courses Offered by Other AFIP Departments:

1. April 21, 2001. "Radiologic Aspects of Interstitial Lung Disease-Part 1 and Part 2," Thoracic Pathology with Clinical and Radiologic Correlations, Silver Spring, Md. Galvin JR.
2. April 21, 200. "Radiologic Aspects of Thoracic Neoplasms," "Radiologic, Clinical, and Pathology Correlations," Thoracic Pathology with Clinical and Radiologic Correlations, Silver Spring, Md. Rosado de Christenson ML.
3. December 3, 2001. "Radiology of Pediatric Head Trauma," "Basic Radiology of Child Abuse," "Fracture Dating Radiology," Pediatric Forensic Issues, Orlando, Fla. Lonergan GJ.

Non-AFIP Courses:

1. March 5-10, 2001. "Tumors of the Lung, Pleura, and Chest Wall," European Congress of Radiology, Vienna, Austria. Rosado de Christenson ML.
2. March 30, 2001. "Hepatic Malignancies," Thirteenth Annual Meeting of the Society of Gastrointestinal Radiologists, Scottsdale, Ariz. Levy AD.
3. April 11-12, 2001. "Imaging of the Temporal Bone: Anatomy and Congenital Anomalies," "Imaging of the Temporal Bone: Infections and Neoplasms," "Neoplasms of the Spinal Cord and Filum Terminale," "Imaging of Head Trauma," "Cerebral Ischemia: The Basics," "Acquired White Matter Disease," "CNS Lymphoma," Jornada Paulista de Radiologia 2001, Sao Paulo, Brazil. Koeller KK.
4. April 11-14, 2001. "Congenital Lesions of the Lung, Parts I and II," "Differential Diagnosis of Mediastinal Masses, Parts I and II," Jornada Paulista de Radiologia 2001, Sao Paulo, Brazil. Rosado de Christenson ML.
5. May 2, 2001. "Imaging of Thoracic Sarcoidosis and Tuberculosis," 101st Annual Meeting of American Roentgen Ray Society, Seattle, WA. Rosado de Christenson ML, Rubin SA.
6. May 8 2001. "Congenital Heart Disease," Harvard Review Course, Boston, MA. Lonergan GJ.
7. July 29, 2001. "Renal Masses: Radiologic-Pathologic Correlation," "Evaluation of Scrotal Masses," Japanese College of Radiology, Tokyo, Japan. Woodward PJ.
8. August 18, 2001. "Scientific Seminar Unknown Cases," Tohoku University School of Medicine, Tohoku, Japan. Galvin JR.
9. October 11-13, 2001. "Pancreatic Neoplasms: Radiologic-Pathologic Correlation," "Abdominal Manifestations of Lymphoma: Radiologic-Pathologic Correlation," "Gastric Malignancies; Radiologic-Pathologic Correlation," "Seminar in Liver Disease: Radiologic-Pathologic Correlation," 4th Roentgen-Virchow Symposium: Radiologic-Pathology Course, Berlin, Germany. Levy AD.
10. December 2, 2001. "Congenital Cystic Neck Masses," "Intra-axial Neoplasms," World Class Radiology, National Diagnostic Imaging Symposium, Orlando, Fla. Koeller KK.
11. December 4, 2001. "Mediastinal Masses," "Pleural Neoplasia," World Class Radiology, National Diagnostic Imaging Symposium, Orlando, Fla. Rosado de Christenson ML.

Presented Abstracts:

1. March 5, 2001. "Tumors of the Lung, Pleura, and Chest Wall," European Congress of Radiology Annual Meeting, Vienna, Austria. Rosado de Christenson ML.

2. May 3, 2001. "Giant Cell Tumor of the Spine." American Roentgen Ray Society, 101st Annual Meeting, Seattle, Wash. Nomikos GC, Murphey MD, Gannon FH, Jelinek JS.
3. November 25, 2001. "A Systematic Approach to Imaging of Musculoskeletal Tumors," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Murphey MD, Sundaram M.
4. November 26, 2001. "Differential Diagnosis of Mediastinal Masses," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Rosado de Christenson ML, Kazerooni EA.
5. November 27, 2001. "Bronchioloalveolar Carcinoma and Adenocarcinoma with Radiologic Features of Cystic Change: Tumor Reclassification using the Revised World Health Organization Classification of Lung and Pleural Neoplasms," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Strollo DC, Rosado de Christenson ML, Franks TJ.
6. November 27, 2001. "Choledochal Cysts: Clinical, Radiologic, and Pathologic Review and Classification of 130 Cases," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Levy AD, Rohrmann CA, Lonergan GL, Murakata LA.
7. November 28, 2001. "Imaging Characteristics of Spindle Cell Lipoma," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Bancroft LW, Kransdorf MJ, Peterson JJ, Sundaram M, Murphey MD, O'Connor MI.
8. November 28, 2001. "Lymphoma from Head to Toe," Special Focus Session, 87th Scientific Assembly and Annual Meeting. Chicago, Ill. Koeller KK, Galvin JR, Levy AD, Lonergan GL, Murphey MD, Woodward PJ.
9. November 28, 2001. "Prospective Diagnosis of Soft Tissue Tumors," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Murphey MD, Nomikos GC.
10. November 28, 2001. "Intra-axial Neoplasms," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Koeller KK.

SCIENTIFIC EXHIBITS

1. March 25-30, 2001. "Gastrointestinal hemangiomas: imaging findings with pathologic correlation," Thirtieth Annual Meeting of the Society of Gastrointestinal Radiology. Scottsdale, Ariz. Levy AD, Abbott RM, Rohrmann CA, Frazier AA, Kende A.
2. March 25-30, 2001. "Gallbladder carcinoma: radiologic-pathologic correlation," Thirtieth Annual Meeting of the Society of Gastrointestinal Radiology. Scottsdale, Ariz. Levy AD, Murakata LA, Rohrmann CA.
3. March 25-30, 2001. "Intra-abdominal manifestations of sarcoidosis, a pictorial review with radiologic-pathologic correlation," Thirtieth Annual Meeting of the Society of Gastrointestinal Radiology. Scottsdale, Ariz. Abbott RM, Zucker RJ, Grayson DE, Charmichael B, Levy AD.
4. April 29-May 4, 2001. "Imaging of chondroblastoma with pathologic correlation," American Roentgen Ray Society 101st Annual Meeting. Seattle, Wash. Nomikos GC, Murphey MD, Gannon FH, Flemming DJ.
5. November 24-30, 2001. "Gastrointestinal motility disorders: radiologic-pathologic correlation," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Levy AD, Rohrmann CA, Schuffler MD, Krishnamurthy S, Kende AI.
6. November 24-30, 2001. "Primary neoplasms of the appendix: radiologic spectrum of disease with pathologic correlation," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting, Chicago, Ill. Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI.
7. November 24-30, 2001. "Imaging of chondroblastoma with pathologic correlation," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting. Nomikos GC, Murphey MD, Gannon FH, Flemming DJ.
8. November 24-30, 2001. "Cerebral astrocytomas: radiologic-pathologic correlation," Radiological Society of North America, 87th Scientific Assembly and Annual Meeting. Roa Martinez E, Koeller KK.

PUBLICATIONS

Journal Articles

1. Arnold BW, Gilfeather M, Woodward PJ. Mullerian duct anomalies complicated by obstruction: evaluation with pelvic magnetic resonance imaging. *Journal of Women's Imaging*. 2001;3:146-152.
2. Berrocal T, Gaya F, Arjonilla A, Loneran GJ. Cystosonography with Levovist versus voiding cystourethrography in the diagnosis and grading of vesicoureteral reflux. *Radiology*. 2001;221:359-365.
3. Boiselle PM, Rosado de Christenson ML. Fat attenuation lesions of the mediastinum. *J Comput Assist Tomogr*. 2001;25:881-889.
4. Hunninghake G, Zimmerman MB, Mahurin D, Schwartz D, King TE, Lynch J, Hegele R, Hogg J, Waldron J, Colby T, Muller N, Lynch D, Galvin J, Gross B, Toews G, Helmers R. Utility of lung biopsy for the diagnosis of idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med*. 2001;164:193-196.
5. Levy AD, Murakata LA, Rohrmann CA Jr. Gallbladder carcinoma: radiologic-pathologic correlation. *Radiographics*. 2001;21:295-314.
6. Levy AD, Abbott RM, Rohrmann CA, Frazier AA, Kende A. Gastrointestinal hemangiomas: imaging findings with pathologic correlation in pediatric and adult patients. *AJR Am J Roentgenol*. 2001;177:1073-1081.
7. Levy AD. Noninvasive imaging approach to the patient with suspected hepatobiliary disease. *Techniques in Vascular and Interventional Radiology*. 2001; 4:132-140.
8. Loneran, GJ, Cline, DB, Abbondanzo SL. Sick cell anemia. *Radiographics*. 2001;21:971-994.
9. Murphey MD. Imaging of arthritis I: approach and inflammatory disease. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):177-179.
10. Murphey MD. Imaging of arthritis II: osteoarthritis, crystal disease, and neuropathic arthropathy. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):180-183.
11. Murphey MD. Fundamental concepts of musculoskeletal neoplasm: CT and MRI. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):184-186.
12. Murphey MD. Common osteoid lesions of bone. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):187-191.
13. Kuklo TR, Islinger RB, Owens BD, Murphey MD, Berrey BH, Temple HT. Pseudotumors presenting in nonhemophiliacs. *Orthopedics*. 2001;24:483-486.
14. Robbin MR, Murphey MD, Temple HT, Kransdorf MJ, Choi JJ. Imaging of musculoskeletal fibromatosis. *Radiographics*. 2001;21:585-600.
15. Collins MT, Riminucci M, Corsi A, Murphey MD, Wientroub S, Bianco P, Robey PG. Angiomas of bone with localized mineralization defect. *J Bone Miner Res*. 2001;16:1750-1753.
16. Riminucci M, Collins MT, Corsi A, Boyde A, Murphey MD, Wientroub S, Kuznetsov SA, Cherman N, Robey PG, Bianco P. Gnathodiaphyseal dysplasia: a syndrome of fibro-osseous lesions of jawbones, bone fragility, and long bone bowing. *J Bone Miner Res*. 2001;16:1710-1718.
17. Rossi SE, McAdams HP, Rosado de Christenson ML, Franks TJ, Galvin JR. Fibrosing mediastinitis. *Radiographics*. 2001;21:737-757.
18. Woodward PJ, Sohaey R, Mezzetti TP. Endometriosis: radiologic-pathologic correlation. *Radiographics*. 2001;21:193-216.
19. Levy AD, Rohrmann CA. Gastrointestinal Behçet's syndrome [invited commentary]. *Radiographics*. 2001;21:924-925.
20. Levy AD, Ros PR. Radiologic spectrum of intraductal papillary mucinous tumor of the pancreas [invited commentary]. *Radiographics*. 2001;21:337-340.
21. Levy AD, Ros PR. Hepatic adenomas: imaging findings with pathologic correlation [invited commentary]. *Radiographics*. 2001;21:892-894.
22. Koeller KK. William M. Thompson, MD and Andre Duerinckx, MD; PhD, Armed Forces Institute of Pathology 2001-2002 Distinguished Scientists. *Radiology*. 2001;220:5-6.

Abstracts

1. Bancroft LW, Kransdorf MJ, Peterson JJ, Sundaram M, Murphey MD, O'Connor MI. Imaging characteristics of spindle cell lipoma. *Radiology*. 2001;221(P):474.
2. Koeller KK, Galvin JR, Levy AD, Lonergan GL, Murphey MD, Woodward PJ. Lymphoma from head to toe. Special Focus Session, Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; Chicago, Ill. *Radiology*. 2001;221(P):41.
3. Koeller KK. Intra-axial neoplasms. *Radiology*. 2001;221(P):77.
4. Levy AD, Rohrmann CA, Lonergan GL, Murakata LA. Choledochal cysts: clinical, radiologic, and pathologic review and classification of 130 cases. *Radiology*. 2001; 221(P):445.
5. Murphey MD, Sundaram M. A systematic approach to imaging of musculoskeletal tumors. *Radiology*. 2001;221(P):53.
6. Murphey MD, Nomikos GC. Prospective diagnosis of soft tissue tumors. *Radiology*. 2001;221 (P):473.
7. Nomikos GC, Murphey MD, Gannon FH, Jelinek JS. Giant cell tumor of the spine. *AJR Am J Roentgenol*. 2001; 176(suppl):71.
8. Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI. Primary neoplasms of the appendix neoplasms manifesting as acute appendicitis: CT findings with pathologic correlation. *Radiology*. 2001;221(P):492.
9. Rosado de Christenson ML. Tumors of the lung, pleura, and chest wall. *Eur Radiol*. 2001(suppl 1);11:46.
10. Rosado de Christenson ML, Kazerooni EA. Differential diagnosis of mediastinal masses. *Radiology*. 2001;221(P):59.
11. Strollo DC, Rosado de Christenson ML, Franks TJ. Bronchioloalveolar carcinoma and adenocarcinoma with radiologic features of cystic change: tumor reclassification using the Revised World Health Organization Classification of Lung and Pleural Neoplasms. *Radiology*. 2001;221(P):408.
12. Levy AD, Rohrmann CA, Schuffler MD, Krishnamurthy S, Kende AI. Gastrointestinal motility disorders: radiologic-pathologic correlation. *Radiology*. 2001; 221(P):658.
13. Nomikos GC, Murphey MD, Gannon FH, Flemming DJ. Imaging of chondroblastoma with pathologic correlation. *Radiology*. 2001; 221(P):664.
14. Nomikos GC, Murphey MD, Gannon FH, Flemming DJ. Imaging of chondroblastoma with pathologic correlation. *AJR Am J Roentgenol*. 2001;176:141.
15. Roa Martinez E, Koeller KK. Cerebral astrocytomas: radiologic-pathologic correlation. *Radiology*. 2001;221(P):138.

Other Publication

Galvin JR, Rosado de Christenson ML, Franks TJ, McEvoy PL, Frazier AA. Inhalational anthrax. 2001. <http://anthrax.radpath.org/>



William Inskeep II, COL, VC, USA
Chair
Date of Appointment— 24 December 1996



DEPARTMENT OF VETERINARY PATHOLOGY

MISSION

The Department of Veterinary Pathology provides diagnostic and consultation services; and conducts educational and research programs in veterinary, comparative, and toxicologic pathology to ensure the medical readiness of DoD and to advance federal and civilian medicine. The department:

- Conducts the only veterinary pathology residency program within DoD.
- Conducts diagnostic pathology services for military animals worldwide.
- Oversees the Institute's animal care and use program and maintains AAALAC accreditation
- Serves as the World Health Organization Collaborating Center for Worldwide Reference on Comparative Oncology.
- Serves as an international center for pathology training.
- Supports the DoD and the AFIP by conducting medical research in collaboration with military, other federal, and civilian agencies.
- Operates the Institute's laboratory animal facility.
- Provides comprehensive support to investigators using laboratory animal models of human disease.
- Provides animal research consultation services to the Director, the Institute Animal Care and Use Committee (IACUC), and investigators.
- Conducts education courses in pathology and laboratory animal science.

ORGANIZATION

OFFICE OF THE CHAIR

STAFF

Medical:

- William Inskeep II, COL, VC, USA, Chair, Department of Veterinary Pathology, Deputy Director (Army), AFIP (Jan-July)
- (A) Thomas P. Lipscomb, DVM, Senior Pathologist, ARP
- (D) James C. Eastep, DVM, MS, Computer-Aided Education Specialist, ARP
- Jagannatha V. Mysore, Veterinary Pathologist, ARP
- Sophie Bouchiha, Callender-Binford Fellow, Robert W. Leader Veterinary Pathology Second-Year Fellow
- (A) Michelle L. Fleetwood, Callender-Binford Fellow, Robert W. Leader Veterinary Pathology Fellow

Scientific:

- Henry J. Jenkins, Electron Microscopist and Laboratory Technician
- (D) Michelle L. Fleetwood, Tissue Prosector and Laboratory Technician, ARP

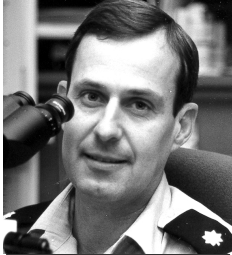
Administrative:

- (D) Daneen E. Harris, MSG, USA, NCOIC
- (A) Harry W. Nash, SFC, USA, NCOIC
- Martha A. Koerner, Secretary

(D) Michele B. Richman, Administrator/Editor, Registry of Toxicologic Pathology for Animals, ARP

(A) Megan M. Sullivan, Administrator/Editor, Registry of Toxicologic Pathology for Animals, ARP

Teresa G. Cannady, Administrative Officer



Dale G. Dunn, LTC, VC, USA

Chief

Date of Appointment—1 October 2000



DIVISION OF VETERINARY PATHOLOGY

STAFF

Medical:

(D) Thomas P. Lipscomb, LTC, VC, USA, Assistant Chair

Dale G. Dunn, LTC, VC, USA, Chief, Division of Veterinary Pathology

Denzil F. Frost, LTC, VC, USA, Chief, Research Branch

T. Joy Atkin, MAJ, VC, USA, Chief, Information Management Branch

Brett H. Saladino, MAJ, VC, USA, Chief, Diagnostic Services Branch

F. Yvonne Schulman, DVM, Staff Pathologist, ARP

(A) Sarah L. Hale, MAJ, VC, USA, Chief, Training Branch

Residents:

(D) James S. Estep, MAJ, VC, USA

(D) Vennee L. Morthole, MAJ, VC, USA

(D) Nancy T. Santiago, MAJ, VC, USA

Randall L. Rietcheck, MAJ, VC, USA (3rd year)

Brad A. Blankenship, CPT, VC, USA (2nd year)

Mary F. Cooper, MAJ, VC, USA (2nd year)

Joseph Novak Jr, MAJ, VC, USA (2nd year)

(A) Jerry R. Cowart, CPT, VC, USA (1st year)

(A) Kathleen A. Ryan, CPT, VC, USA (1st year)

(A) Greg A. Saturday, CPT, VC, USA (1st year)

(A) Deidre E. Stoffregen, CPT, VC, USA (1st year)

Administrative:

(D) Mary A. West, Secretary

(A) Katherine M. Randall



Rebecca A. Cockman-Thomas, LTC, VC, USA
Chief
Date of Appointment—10 July 2000



DIVISION OF LABORATORY ANIMAL MEDICINE

STAFF

Medical:

Rebecca A. Cockman-Thomas, LTC, VC, USA, Chief, Division of Laboratory Animal Medicine

Scientific:

(D) Rodolfo E. Marengo, SGT, USA
(D) Christina Kowalske, PFC, USA
(A) Monique E. Barnes, SPC, USA
(A) Manuel F. Traveras, SPC, USA
Tia Coleman, SPC, USA
Stephen M. Cameron, SPC, USA
Steven P. McNair, Biological Assistant
Michael B. Cannon, Animal Caretaker Supervisor
Rashaan O. Jackson, Animal Caretaker Floor Leader
James P. Pollock, Animal Caretaker
Jerome D. Escoe, Animal Caretaker
(A) Rodolfo E. Marengo, Laboratory Animal Technician, ARP

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	701
No Final Report (NFR)	501
Federal	73
Civilian	621
Interdepartmental.....	9
Total	1,905

Autopsies Conducted:

Division of Laboratory Animal Medicine, AFIP	66
National Zoological Park (NZP)	96
Maryland State Diagnostic Lab (MDX)	65
Other (primarily military dogs)	18
Total	245

The department received over 1,300 cases for consultation and/or submission to the Registry of Veterinary Pathology and the Registry of Toxicologic Pathology for Animals for educational and research purposes. Over 50% of cases reported represent complete autopsies in which wet tissue was received. The percentage of military working dogs necropsied worldwide in 2001 (over 99%) has greatly increased the workload and the number of tissues assessed histopathologically. Each military working dog case has approximately 70 tissues for assessment. Of the 1,321 completed cases, 1,763 special stains were required; 877 immunohistochemical stains were obtained from the AFIP laboratory or performed by department personnel in collabora-

tion with the WRAIR Veterinary Immunohistochemical Laboratory; 21 molecular biological techniques were performed; and 141 electron microscopy cases were completed. We examined radiographs from 7 cases. In addition to the above histopathological cases, the 141 transmission electron microscopy and the 32 scanning electron microscopy cases resulted in 3,458 EM prints. Many of these prints were used in publications. We performed 68 cytological case examinations, which included tissue aspirates and bone marrow impressions. Twenty-two cases received a quality diagnosis code of “4,” representing a major disagreement with the contributor’s diagnosis. Special gross examinations were performed on 3 marine mammals and 15 military working dogs. Department staff members and residents conducted 245 autopsies. Histopathology is performed on almost all cases. NZP and MDX cases are not included with AFIP consultation cases, since they are assessed by residents and reviewed by NZP or MDX staff pathologists. The number of cases submitted to the Registry of Veterinary Pathology is considered adequate.

Impact:

The most significant program is the DoD Veterinary Pathology Residency. We train and prepare all veterinary pathologists for ACVP board certification, specialists necessary for DoD biomedical research laboratories and clinical investigation directorates. Also, the operation of the laboratory animal facility provides critical animal models of human disease for both the AFIP and the Walter Reed Army Medical Center Clinical Investigation Directorate.

- The department provides diagnostic pathology for military working animals and federal animal programs (Customs, Border Patrol, and Secret Service).
- The department published Technical Bulletin Medical 283, “Veterinary Necropsy Protocol For Military Working Dogs And Pathology Specimen Submission Guidelines.” This is the first update of this manual since 1979.
- The WHO Collaborating Center is conducting the first update in 25 years of the *International Histological Classification of Tumors of Domestic Animals*. These fascicles are used worldwide in diagnostic pathology and research with domestic animals.
- The Registry of Toxicologic Pathology for Animals publishes the *Standardized System of Nomenclature for Diagnostic Criteria*. These *Guides* are critical to the standardization of diagnostic terminology for veterinary toxicologic pathologists in drug-safety studies.
- The department is evaluating military working dogs deployed during Operations Desert Shield/Storm as the only biological sentinel system within the theater, as an indicator of human disease.
- Annual courses provide essential training for military medical research specialists, and are key components of the DoD Residency Program. These courses are unique to the profession, as no university conducts a similar course.
- The department continued the Toxicologic Histopathology Web Conference, the first-ever Web-based course for the Institute and the first Web-based histopathology conference for the profession of veterinary pathology.
- The department conducted a 30-week histopathology slide mail-out conference, with 135 participating institutes in 16 countries. This conference is in its 50th year. No similar conference exists for the profession of veterinary pathology. This conference is world renowned as the AFIP Slides!
- We contributed significantly to the discovery that a novel herpesvirus is implicated as the cause of a common genital cancer of sea lions.
- The department provided Laboratory Animal Medicine support for the State Department’s Cooperative Threat Reduction Program (Nonproliferation/Science Cooperation Program) and DoD’s Office of the Secretary of Defense Strategy and Threat Reduction in the former Soviet Union.
- Laboratory Animal Medicine Division supports one of only two DoD facilities with a CT arm scanner and the only DoD facility with animal cardiac catheter capability.

Deployments:

1. January 2001: San Antonio, Tex, Army Veterinary Corps Consultant’s Meeting, W Inskeep.
2. January 2001: Plum Island, NY, Foreign Animal Disease Diagnosticians Course, W Inskeep.
3. March 2001: San Antonio, Tex, Veterinary Corps Junior Officer Development Course, W Inskeep.

4. March 2001: Plum Island, NY, Foreign Animal Disease Diagnosticians Course, W Inskeep.
5. March 2001: Washington, DC, Veterinary Corps Research and Development Short Course, W Inskeep.
6. March 2001, Schaumburg, Ill. American Veterinary Medical Association Council on Research, W Inskeep.
7. April 2001: San Antonio, Tex, Council of Army Veterinarians Meeting, W Inskeep.
8. April 2001: Landstuhl, Germany, Pathology for Clinical Veterinarians Course, W Inskeep.
9. April 2000: Bethesda, Md, USUHS, Weapons of Mass Destruction and Biological Terrorism Course, W Inskeep.
10. April 2001: Frederick, Md, Industrial College of the Armed Forces, Agribusiness/Biotechnology Seminar Groups, W Inskeep.
11. June 2001: Lackland, AFB, Tex, Military working dog necropsy support to DOD Military Working Dog Center, B Blankenship, J Novak.
12. July 2001: Lackland, AFB, Tex, Military working dog necropsy support to DOD Military Working Dog Center, M Fleetwood.
13. September 2001: San Antonio, Tex, Army Veterinary Corps Consultant's Meeting, W Inskeep.
14. October 2001: Emmitsburg, Md, USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar, W Inskeep.

Quality Assurance:

1. The chair or senior staff members review 10% of the monthly consultation cases.
2. Board-certified staff members sign all case letters.
3. Second review: Chief, Division of Veterinary Pathology, Senior Surgical Pathologist, or Chair, Department of Veterinary Pathology.
4. Chair, AFIP Quality Assurance Committee (Jan-July), COL William Inskeep II.
5. The Division of Laboratory Animal Medicine provides quality assurance in procurement and housing of research animals in accordance with Association for the Assessment and Accreditation of Laboratory Animal Care, International Standards.
6. Three department personnel are members of the AFIP Institute Animal Care and Use Committee, an essential quality oversight element of the command.
7. Two department personnel are members of the AFIP Research Committee, an essential quality oversight element of the command.
8. One department person is a member of the AFIP Safety and Biosafety Committees, essential quality oversight elements of the command.

EDUCATION

Presentations and Seminars:

In 2001, the Department of Veterinary Pathology made 39 single presentations at various seminars, symposia, conferences, courses, and workshops, representing 1,544 man-hours of instruction. Dates and venues for these presentations are listed at the end of this report. The department also conducted regular conferences and workshops on a daily, weekly, and quarterly basis.

Courses:

Members of the department conducted 5 AFIP courses, representing 1,948 attendee-days. The Department codirected the USDA-DoD-FEMA Foreign Animal Disease Satellite Seminar that was downlinked to 75 sites in 9 countries, representing 9,000 man-hours of instruction.

Annual courses sponsored by the department and attended by Division of Veterinary Pathology DoD residents include:

1. 47th Pathology of Laboratory Animals Course
2. 6th Current Laboratory Animal Science Seminar
3. CL Davis Foundation Gross Pathology of Animals (cosponsored by the CL Davis Foundation)
4. Descriptive Veterinary Pathology (2 courses)

Personnel from Army research medical laboratories and other government, as well as civilian agencies, attend many of our formal training sessions throughout the academic year.

Trainees:

1. 11 residents, 2,072 trainee-days
2. 2 Callender-Binford Fellows, 378 days
3. 17 visiting veterinary residents studying for ACVP exam, 201 days
4. 8 veterinary students, 128 days

Residency Program:

The Division of Veterinary Pathology operates the Department of Defense's only residency in veterinary pathology. In 2001, the 3-year training program had 8 residents preparing for the American College of Veterinary Pathologists' (ACVP) certifying examination. Our program is recognized as one of the most effective in the country. In the last 12 years, 37 AFIP residents have taken the ACVP examination and 28 have achieved board certification. In 2001, no AFIP residents taking the certifying examination for the first time passed all parts. The national pass rate for first-time applicants was 32%. Our residency program is based on diagnostic service cases, formal training sessions given throughout the academic year, and 3 or 4 annual courses.

The cornerstone of our formal training program is the Systemic Pathology Seminar, organized so that diseases of all organ systems of major animal species are covered over the course of the 3-year residency. Another integral component of the program is the Wednesday Slide Conference. Beginning in 2001/02, 25 conferences are held during an academic year, each consisting of 4 unknown cases. Staff and guest moderators call on residents to describe the lesions and discuss differential diagnosis and pathogenesis. In addition, the Wednesday Slide Conference is a mail-out histopathology seminar for 135 institutes in 16 countries. Residents serve as prosectors for the Division of Laboratory Animal Medicine of the AFIP, the National Zoological Park, and the Maryland State Animal Diagnostic Laboratory in Frederick, Md.

The residency program requires a variety of case material types, including those that represent infectious, toxic, neoplastic, and metabolic diseases from a wide spectrum of animal species. To this end, we obtain training material from civilian diagnostic services, as well as from military sources. Diagnostic support for the military working animal programs is given the highest priority. Detailed histopathologic studies with extensive review by experienced staff members, frequent utilization of electron microscopy, immunohistochemistry, and molecular techniques, as well as consultations with other departments within the Institute, insure the highest quality of diagnostic work.

Educational Aids:

1. Systemic Pathology of Animals Study Sets, Eleven Body Systems (3 sets), available only at AFIP
2. Histopathology Examinations (60), available only at AFIP
3. Gross Pathology Examinations (30), available only at AFIP
4. Wednesday Slide Conference, 4 cases per week for 30-week training year distributed to 135 contributing institutes worldwide
5. Wednesday Slide Conference Study Sets (26 years), available only at AFIP
6. Wednesday Slide Conferences, including text and images, on the Internet for the Conference Years 1995-96, 1997-98, and 1998-99 (partial)
7. CL Davis Foundation study sets containing over 3,000 histology slides
8. Normal histology and species-specific study sets (63), available only at AFIP
9. Database of histology/gross pathology slides for the study of comparative pathology (12,000 slides)
10. Missouri Gross Pathology study sets (1,150 Kodachromes)
11. Interlibrary Loan Study Sets (79 titles), available within the department or from the AFIP MIS Library
12. Internet - three levels of case information from the Wednesday Slide Conference Years 1998-99 (partial), accessible by selection to distant viewers:
 - Level 1: Brief history of unknown case
 - Level 2: Initial diagnosis following completion of each conference, followed as quickly as possible by photomicrographs illustrating major morphologic features
 - Level 3: Complete written results and prepared comments about each of the 4 weekly cases

13. Wednesday Slide Conference Year 1993-94 CD-ROM – available at AFIP and through the ARP Bookstore.
14. Internet - RTPA Toxicologic Histopathology Web Slide Conference 2001 hosted 9 conference sessions, each session focused on 4 thought-provoking cases submitted by participating organizations. This online conference series provides toxicologic pathologists with a neutral, anonymous forum for the exchange of ideas and information concerning toxicologic research and related issues. The conferences are open for a 2-week period, 7 days a week, 24 hours a day. Over 480 pathologists from 29 institutions worldwide participated. This material is available at no cost to the DoD Residency Program.
15. Visiting veterinarians studying for the American College of Veterinary Pathologists' certifying examination (17 in 2001) use our extensive collection of histologic and gross pathology slide sets, many of which are available only at the AFIP.

RESEARCH

Publications: The department produced or contributed to 10 journal articles, 7 abstracts, and 3 books. A complete list of references is included at the end of this report. LTC Dale G. Dunn published the *Army Technical Bulletin Medical* on necropsy procedures for military working dogs. Dr. F. Yvonne Schulman is senior editor and Collaborating Center director for the second series of the *World Health Organization International Histological Classification of Tumors of Domestic Animals*. The *Guides to the Standardized System of Nomenclature and Diagnostic Criteria for Toxicologic Pathology* continue to be published, with the completion of proliferative lesions in the rat and the initiation of nonproliferative lesions in the rat and mouse. LTC Denzil Frost provides oversight of the *Guides*, and Ms. Michele Richman and Ms. Megan Sullivan coordinate the subject-matter expert groups and edit each publication.

Projects:

The department is conducting/supporting numerous pathology and laboratory animal research projects. Specific projects focused on military readiness, include the following:

1. Indicators of Human Disease from Persian Gulf Service: A Study of Military Working Dogs Deployed in Operations Desert Shield and Desert Storm, a collaborative effort with the DoD Military Working Dog Veterinary Service, Lackland AFB, Texas
2. Genital Tract Carcinomas of Free-Ranging Sea Lions (sea lions serve as military working animals)
3. Causes of Marine Mammal Disease (dolphins and whales serve as military working animals)
4. CD-ROM of the Necropsy of the Military Working Dog

The department had one animal use training protocol, Technician/Investigator Training at the AFIP, open as of December 31, 2001. The only animal use research protocol, Indicators of Human Disease from Persian Gulf Service: A Study of Military Working Dogs Deployed in Operations Desert Shield and Desert Storm, was closed in 2001.

In 2001, the Division of Veterinary Pathology conducted independent research and/or provided pathology support for the following ongoing intramural and extramural research projects:

1. Effects of Persian Gulf War service on military working dogs
2. FDA Interagency Research Support Agreement
3. CNS Tumors of Domestic Animals study set
4. Causes of marine mammal disease
5. Applications of CD-ROM technology to training in veterinary pathology
6. Characterization and etiology of genital tract carcinomas of free-ranging sea lions
7. Characterization of gastrointestinal stromal tumors in animals
8. Characterization and etiology of feline sarcoids
9. Characterization of seminoma in dolphins
10. Disseminated herpesvirus infections in bottlenose dolphins
11. Feline subependymal giant cell astrocytoma
12. Infanticide in dolphins
13. Web-based distance learning in veterinary pathology
14. Morbilliviral dermatitis in pinnipeds

15. Characterization and etiology of camelid fibropapillomas
16. Characterization and pathology associated with *Calyptospora* in arapaima
17. Description and characterization of adnexal carcinomas in dogs
18. Investigation of increased incidence of cancer in beluga whales from the Saint Lawrence Estuary
19. Characterization of herpesvirus infection in elephant seals
20. Characterization of a brainstem carcinoma in a beluga whale
21. Characterization of gout in a bottlenose dolphin
22. Characterization and biologic behavior of pleomorphic mast cell tumors in cats

The Division of Laboratory Animal Medicine (DLAM) provided support to 23 animal use research protocols involving over 4,000 animals. DLAM supports the Department of Cardiovascular Pathology with basic research in a broad range of clinically important cardiovascular diseases, including arterial responses to injury, atherosclerosis, and novel therapies for arterial restenosis following stent placement. DLAM supported 555 cardiovascular surgical procedures. DLAM supports the Department of Infectious and Parasitic Diseases Pathology with studies involving methods to protect against infection with *Brucella*. DLAM also collaborates with Walter Reed Army Medical Center, Department of Clinical Investigations, and supported 40 nephrology surgical procedures.

Research Funds Received:

The department received a total of \$375,000 in extramural funds for research-related activities, including the following:

1. FDA Interagency Research Support Agreement - \$10,000
2. Diagnostic histopathology support of the marine mammal programs of the federal government, with an annual workload of 186 cases, approximately 95% of which were autopsies - \$50,000, National Marine Fisheries Service
3. Persian Gulf Initiative - \$315,000
4. The department completed work under an ARP grant – Sea Lion Carcinoma Study

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. US Navy, marine mammal pathology support.
2. DoD Military Working Dog Veterinary Service, Persian Gulf military dog study and MWD morbidity/mortality studies.
3. Walter Reed Army Institute of Research, immunohistochemical and molecular techniques.
4. National Marine Fisheries Service, marine mammal studies.
5. US Fish and Wildlife Service, marine mammal studies.
6. US Food and Drug Administration, human heart valve, cardiac vessels, and cell culture studies.

Civilian:

1. University of California at Davis, marine mammal studies.
2. Pathogenesis Corporation, Seattle, Wash, marine mammal studies.
3. Marine Mammal Center, Sausalito, Calif, marine mammal studies.
4. Auburn University, Auburn, Ala, Persian Gulf military dog study.
5. University of Texas School of Public Health, Persian Gulf military dog study.
6. University of North Carolina at Wilmington, marine mammal studies.
7. Virginia Marine Science Museum, marine mammal studies.
8. CL Davis Foundation, education in veterinary and comparative pathology.
9. VA-MD Regional College of Veterinary Medicine, training of veterinary students.
10. National Zoological Park, Washington, DC, conduct prosector program.
11. Maryland State Diagnostic Laboratory, Frederick, Md, conduct prosector program.
12. Society of Toxicologic Pathology, publish Toxicologic Pathology Guides.

13. Uniformed Services University of the Health Sciences, Persian Gulf military dog study.
14. The Ohio State University, Columbus, Ohio, domestic animal tumor study set.
15. National Oceanic and Atmospheric Administration, marine mammal studies.
16. National Ocean Service, marine mammal studies.
17. Center for Coastal Environmental Health and Biomolecular Research, Charleston, SC, marine mammal studies.
18. University of Pennsylvania, School of Veterinary Medicine, New Bolton, Pa, marine mammal studies.
19. New Jersey Marine Mammal Stranding Center, Brigantine, NJ, marine mammal studies.

In 2001, the Division of Veterinary Pathology provided extensive pathology support to federal marine mammal programs through a funded Memorandum of Agreement. In recent years, this involvement has led to the discovery that morbilliviruses caused the dolphin epizootics along the Atlantic coast (1987-1988) and in the Gulf of Mexico (1993-1994), and to the confirmation of a novel gamma herpesvirus as a possible cause of a prevalent genital cancer of California sea lions (2000-2001). Collaboration with the Department of Cellular Pathology and Genetics has resulted in development of a sensitive polymerase chain reaction test for dolphin morbillivirus. Forensic evidence of infanticide in bottlenose dolphins has been found.

International:

Hebrew University, Tel Aviv, Israel. Defense Advanced Research Projects Agency (DARPA) site visit.

Interdepartmental:

1. Department of Environmental and Toxicologic Pathology, Persian Gulf military dog study.
2. Department of Epidemiology, Repository and Research Services, Persian Gulf military dog study and military dog epidemiological studies.
3. Department of Cellular Pathology and Genetics, marine mammal and domestic animal studies.
4. Department of Soft Tissue Pathology, gastrointestinal stromal tumors.
5. American Registry of Pathology, domestic animal tumor study, CD-ROM project, Web-based education.

Honors:

1. Harold W. Casey Award for Sustained Excellence in the Teaching of Veterinary Pathology, CL Davis Foundation, - LTC Thomas P. Lipscomb
2. Legion of Merit - LTC Thomas P. Lipscomb
3. "A" Proficiency Designator, US Army Surgeon General - LTC Dale G. Dunn
4. The Meritorious Service Medal - CPT Jerry Cowart
5. The Army Commendation Medal - CPT Deidre Stoffregen
6. The Army Achievement Medal - CPT Deidre Stoffregen
7. The Army Commendation Medal - CPT Greg Saturday
8. The Army Commendation Medal - CPT Kathleen Ryan

Committees:

Manuscripts Reviewed: Members of the department reviewed 5 articles for the following professional journals:

1. *Toxicologic Pathology* (1)
2. *Veterinary Pathology* (2)
3. *Journal of the American Veterinary Medical Association* (1)
4. *Journal of Aquatic Animal Health* (1)

Offices/Committee Memberships in National or International Societies:

1. Member, Society of Toxicologic Pathologists, Nomenclature and Diagnostic Criteria Steering Committee - COL William Inskeep II
2. Member, American Veterinary Medical Association, Council on Research - COL William Inskeep II

3. Member, National Marine Fisheries Service, Working Group on Unusual Mortalities of Marine Mammals - Dr. F. Yvonne Schulman and LTC Dale G. Dunn
4. Member, ACVP Credentialing of Candidates Committee - LTC Thomas P. Lipscomb
5. Member, ACVP National Examination Committee - LTC Dale G. Dunn
6. Member, Armed Services Biomedical Research Evaluation and Management Committee, Joint Technical Working Group - LTC Rebecca A. Cockman-Thomas
7. Chair, American College of Laboratory Animal Medicine Training Program Recognition Committee - LTC Rebecca A. Cockman-Thomas
8. Member, American College of Veterinary Pathologists, Training Coordinators Committee - MAJ Brett H. Saladino and MAJ Sarah L. Hale
9. American College of Veterinary Pathologists, Training Coordinators Committee member, Mock Examination Subcommittee Chair - MAJ Sarah L. Hale
10. Member, National Marine Fisheries Service workshop on mass stranding of beaked whales in the Bahamas - LTC Dale G. Dunn
11. Member, Florida Department of Natural Resources workshop on manatee mortality - LTC Dale G. Dunn and LTC Thomas P. Lipscomb
12. Member World Health Organization Committee on the Histologic Classification of Tumors of the Renal System - COL William Inskeep II

Intramural:

1. Advisory Committee, Center for Advanced Pathology - LTC Dale G. Dunn
2. Surgeon General's Vision Group for AFIP - LTC Dale G. Dunn
3. Search Committee for Armed Forces Medical Examiner - LTC Dale G. Dunn
4. Laboratory Animal Care and Use Committee - LTC Denzil F. Frost, LTC Rebecca A. Cockman-Thomas, MAJ Thelda J. Atkin
5. AFIP Research Committee - LTC Denzil F. Frost
6. AFIP Scientific Computing Group - MAJ Thelda J. Atkin
7. AFIP Information Guidance Council - MAJ Thelda J. Atkin

Faculty Appointments:

Uniformed Services University of the Health Sciences, Adjunct Professor, Preventive Medicine and Biometrics Department, LTC Rebecca A. Cockman-Thomas.

Other Appointments:

1. Army, Deputy Director AFIP (Jan-July) - COL William Inskeep II
2. Defense Veterinary Liaison Officer to USDA (Jan-July) - COL William Inskeep II
3. AVMA Liaison Officer to ARP - COL William Inskeep II
4. AVMA Liaison Officer to National Association for Biomedical Research - COL William Inskeep II
5. Senior Enlisted Advisor for Army Personnel - MSG Daneen E. Harris/SFC Harry W. Nash, Jr
6. Alternate 1SG - MSG Daneen E. Harris/SFC Harry W. Nash, Jr
7. Task Area Support Officer - MSG Daneen E. Harris/SFC Harry W. Nash, Jr

New Missions and/or Missions Dropped:

As a new mission, the department is developing a Web-based Systemic Veterinary Pathology Resource that is designed to have images of over 700 disease entities from multiple species of animals. Categories will include neoplastic, viral, bacterial, fungal, parasitic, toxic, metabolic, and miscellaneous diseases in 11 body systems.

Official Trips (funding agency in parentheses):

1. January 2001: Army Veterinary Corps Consultant's Meeting, San Antonio Tex, W Inskeep (DODVSA).
2. January 2001: Foreign Animal Disease Diagnosticians Course, Plum Island, NY, W Inskeep (USDA).
3. February 2001: 73rd Annual Meeting of the Western Veterinary Conference, Las Vegas, Nev, B Saladino (AFIP).
4. March 2001: Military Veterinary Medical Short Course, San Antonio, Tex, JS Estep

- (MEDCOM).
5. March 2001: Veterinary Corps Junior Officer Development Course, San Antonio, Tex, W Inskeep (DODVSA).
 6. March 2001: Foreign Animal Disease Diagnosticians Course, Plum Island, NY, W Inskeep (AFIP).
 7. March 2001: Veterinary Corps Research and Development Short Course, Washington, DC, W Inskeep, DG Dunn, DF Frost, B Saladino, TJ Atkin (local).
 8. March 2001: 90th Annual Meeting of the United States and Canadian Academy of Pathology, Atlanta, Ga, B Saladino (AFIP).
 9. March 2001: American Veterinary Medical Association, Council on Research, Schaumburg, Ill, W Inskeep (AVMA).
 10. April 2001: Council of Army Veterinarians Meeting, San Antonio Tex, W Inskeep (DODVSA).
 11. April 2001: Iowa State University Phi Zeta Banquet, Ames, Iowa, W Inskeep (USAREC).
 12. April 2001: Pathology for Clinical Veterinarians Course, Landstuhl, Germany, W Inskeep (MEDCOM).
 13. April 2000: Weapons of Mass Destruction and Biological Terrorism Course, Bethesda, Md, W Inskeep (local).
 14. April 2001: Industrial College of the Armed Forces, Agribusiness/Biotechnology Seminar Groups, Frederick, Md, W Inskeep (local).
 15. May 2001: Northeast Region of the US Animal Health Association, Dover, Del, W Inskeep (local).
 16. June 2001: AFIP Descriptive Veterinary Pathology Course, Washington, DC, W Inskeep, TP Lipscomb, FY Schulman, DG Dunn, B Saladino, D Frost (local).
 17. June 2001: Military Working Dog Center, Lackland AFB, San Antonio, Tex, B Blankenship, J Novak (Persian Gulf).
 18. July 2001: Annual Convention of the American Veterinary Medical Association, Boston, Mass, DG Dunn (AFIP).
 19. June 2001: Annual Meeting of the Society of Toxicologic Pathologists, Orlando, Fla, DF Frost (ARP).
 20. July 2001: Military Working Dog Center, Lackland AFB, San Antonio, Tex, M Fleetwood (Persian Gulf).
 21. August 2001: 2nd Biennial Foreign Animal Disease Course, University of Wisconsin, Madison, Wis, W Inskeep (USDA).
 22. September 2001: Army Veterinary Corps Consultant's Meeting, San Antonio Tex, W Inskeep (DODVSA).
 23. September 2000: American College of Veterinary Pathologists Certification Examination, Ames, Iowa, TJ Atkin, JS Estep, N Santiago, V Morthole (AFIP).
 24. October 2001: USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar, Emmitsburg, Md, W Inskeep (USDA).
 25. October 2001: University of Pennsylvania Pathology Seminar, Philadelphia, Pa, FY Schulman (local).
 26. November 2001: Society of Neuroscience Annual Meeting, New Orleans, La, SL Hale (AFIP).
 27. November 2001: CL Davis Seminar, Hershey, Pa, FY Schulman (CL Davis).
 28. November 2001: 51th National AALAS Meeting, Baltimore, Md, RA Cockman-Thomas (local).
 29. December 2001: 52nd Annual Meeting of the American College of Veterinary Pathologists, Salt Lake City, Utah, TP Lipscomb, FY Schulman, B Saladino, D Frost, SL Hale, D Dunn, R Rietcheck, S Bouchiha (AFIP).

Continuing Education:

The Department of Veterinary Pathology staff and residents attended the following training courses during 2000 (funding included in parentheses):

1. Foreign Animal Disease Diagnosticians Course, Plum Island, NY, (AFIP).

2. Annual Meeting of the Western Veterinary Conference, Las Vegas, Nev, (AFIP).
3. Annual Meeting of the United States and Canadian Academy of Pathology, Atlanta, Ga, (AFIP).
4. Pathology for Clinical Veterinarians Course, Landstuhl, Germany, (MEDCOM).
5. AFIP Descriptive Veterinary Pathology Course, Washington, DC, (local).
6. Annual Convention of the American Veterinary Medical Association, Boston, Mass, (AFIP).
7. Annual Meeting Society of Toxicologic Pathologists, Orlando, Fla, (ARP).
8. 2nd Biennial Foreign Animal Disease Course, University of Wisconsin, Madison, Wis, (USDA).
9. USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar, Emmitsburg, Md, (USDA).
10. University of Pennsylvania Pathology Seminar, Philadelphia, Pa, (local).
11. Society of Neuroscience Annual Meeting, New Orleans, La, (AFIP).
12. CL Davis Seminar, Hershey, Pa, (CL Davis).
13. 51st National AALAS Meeting, Baltimore, Md, (local).
14. 52nd Annual Meeting of the American College of Veterinary Pathologists, Salt Lake City, Utah (AFIP).

Exhibits:

The department's Registry of Veterinary Pathology, Registry for Toxicologic Pathology of Animals, and DoD Veterinary Pathology Residency Program exhibit was displayed at the annual meetings of the Society of Toxicologic Pathologists, the Society of Toxicologists, and the American College of Veterinary Pathologists.

Registries:

The Registries of Veterinary Pathology and Toxicologic Pathology for Animals are active and productive.

The Registry of Toxicologic Pathology for Animals (RTPA) (LTC Denzil F. Frost, Director, appointed May 1999):

1. Continued publication of the *Guides to the Standardized System of Nomenclature and Diagnostic Criteria for Toxicologic Pathology*, to include work on drafts for nonproliferative lesions in the rat (2) and mouse (4) *Guides*. Subscriptions remained level, with a total of 171 in 2001.
2. Participated in international conferences that defined the preferred terminology for entry of proliferative lesions of rats and mice into the North American Control Animal Database.
3. Hosted regular quarterly membership panels and diagnostic consultation meetings. The Registry hosted educational exhibit booths at the annual meetings of the American College of Veterinary Pathologists, the Society of Toxicology, and the Society of Toxicologic Pathology.
4. Nine conferences were offered via the RTPA Toxicologic Histopathology Web Conference series, the first Web conference organized within the AFIP. It continues to be the most successful Institute Web conference, registering 29 pharmaceutical firms with over 480 participants throughout the world.

PRESENTATIONS

1. January 2001: San Antonio, Tex, Army Veterinary Corps Consultant's Meeting, "Status of Veterinary Pathology Specialty," W Inskeep.
2. January 2001: Plum Island, NY, Foreign Animal Disease Diagnosticians Course, "Military Interests in Foreign Animal Diseases," W Inskeep.
3. February 2001: Las Vegas, Nev, 73rd Annual Meeting of the Western Veterinary Conference, "Animal Diseases of Concern for the Immunocompromised Client," B Saladino.
4. February 2001: Las Vegas, Nev, 73rd Annual Meeting of the Western Veterinary Conference, "Mycobacterial Diseases that Affect Animals and Humans," B Saladino.
5. February 2001: Las Vegas, Nev, 73rd Annual Meeting of the Western Veterinary Conference, "Emerging Viral Zoonoses," B Saladino.

6. February 2001: Las Vegas, Nev, 73rd Annual Meeting of the Western Veterinary Conference, "Principles of Biowarfare and Terrorism for the Veterinary Diagnostician," B Saladino.
7. March 2001: San Antonio, Tex, Veterinary Corps Junior Officer Development Course, "Opportunities in Veterinary Pathology," W Inskeep.
8. March 2001: Plum Island, NY, Foreign Animal Disease Diagnosticians Course, "Military Interests in Foreign Animal Diseases," W Inskeep.
9. March 20, 2001: Washington, DC, Veterinary Corps Research and Development Short Course, "Opportunities in Veterinary Pathology," W Inskeep.
10. March 2001: Atlanta, Ga, 90th Annual Meeting of the United States and Canadian Academy of Pathology, "Overview of Selected Pet-Borne Zoonoses for Surgical Pathologists," B Saladino.
11. April 2001: San Antonio, Tex, Council of Army Veterinarians Meeting, "Status of Veterinary Pathology Specialty," W Inskeep.
12. April 2001: Ames, Iowa, Iowa State University Phi Zeta Banquet, "Agroterrorism," W Inskeep.
13. April 2001: Landstuhl, Germany, Pathology for Clinical Veterinarians Course, "Opportunities in Veterinary Pathology," W Inskeep.
14. April 2001: Landstuhl, Germany, Pathology for Clinical Veterinarians Course "Necropsy Techniques and Cytology Wet Laboratory," W Inskeep.
15. April 2001: Landstuhl, Germany, Pathology for Clinical Veterinarians Course, "Cytology- A Very Useful Diagnostic Aid," W Inskeep.
16. April 2000: Bethesda, Md, Weapons of Mass Destruction and Biological Terrorism Course, "Bioagents as Threats to Livestock," W Inskeep.
17. April 2001: Frederick, Md, Industrial College of the Armed Forces, Agribusiness/Biotechnology Seminar Groups, "Bioagents as Threats to Livestock and DoD Support to the US Department of Agriculture," W Inskeep.
18. May 2001: Dover, Del, Northeast Region of the US Animal Health Association, "Agroterrorism and DoD Support to the US Department of Agriculture," W Inskeep.
19. June 2001: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Slide Test Review," W Inskeep.
20. June 2001: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Histologic Case Descriptions," FY Schulman.
21. June 2001: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Histologic Case Descriptions," TP Lipscomb.
22. June 2001: Washington, DC, AFIP Descriptive Veterinary Pathology Course, "Histologic Case Descriptions," FY Schulman.
23. July 2001: Boston, Mass, Annual Convention of the American Veterinary Medical Association, "Bioagents as Threats to Livestock," DG Dunn.
24. August 2001: Madison, Wis, 2nd Biennial Foreign Animal Disease Course, University of Wisconsin, "Military Response to Livestock Disease Emergencies," W Inskeep.
25. September 2001: San Antonio, Tex, Army Veterinary Corps Consultant's Meeting, "Status of Veterinary Pathology Specialty," W Inskeep.
26. October 2001: Emmitsburg, Md, USDA-DoD-FEMA 6th Annual Emergency Preparedness Satellite Seminar, "Foreign Animal Diseases – A Key National Interest," W Inskeep.
27. October 2001: Philadelphia, Pa, University of Pennsylvania Seminar, "Histologic Classification of Nervous System Tumors of Domestic Animals," FY Schulman.
28. November 2001: Washington, DC, AFIP, Weekly Professional Staff Conference, "Biological Agents as Threat to Livestock," W Inskeep.
29. November 2001: Washington, DC, AFIP Professional Staff Conference, "Camelid Mucocutaneous Fibropapillomas: Clinicopathologic Findings and Association with Papillomavirus Infection," FY Schulman.
30. November 2001: Washington, DC, AFIP Professional Staff Conference, "Morbilliviral Dermatitis in Seals," TP Lipscomb.
31. November 2001: New Orleans, La, Society of Neuroscience Annual Meeting, "Expression

- of Sodium Channel Genes Following Ischemic Injury: An In Situ Hybridization Study,” SL Hale. Poster.
32. November 2001: New Orleans, La, Society of Neuroscience Annual Meeting, “Neuroprotection and Ischemic Brain Injury in Rats: Improved Therapeutic Window Obtained with the Anti-Inflammatory Drug PS519,” SL Hale. Poster.
 33. November 2001: Hershey, Pa, CL Davis Seminar, “Histologic Classification of Nervous System Tumors of Domestic Animals,” FY Schulman.
 34. December 2001: Salt Lake City, Utah, 52nd Annual Meeting of the American College of Veterinary Pathologists, “Camelid Mucocutaneous Fibropapillomas: Clinicopathologic Findings and Association with Papillomavirus Infection,” FY Schulman.
 35. December 2001: Salt Lake City, Utah, 52nd Annual Meeting of the American College of Veterinary Pathologists, “Retinal Degeneration in the Domestic Ferret,” B Saladino.
 36. December 2001: Salt Lake City, Utah, 52nd Annual Meeting of the American College of Veterinary Pathologists, “Gastrointestinal Stromal Tumors and Leiomyomas in the Dog,” D Frost.
 37. December 2001: Salt Lake City, Utah, American College of Veterinary Pathologists Annual Meeting, “Middle Cerebral Artery Occlusion in a Rat,” SL Hale.
 38. December 2001: Salt Lake City, Utah, American College of Veterinary Pathologists Annual Meeting, “Vascular Neoplasia in the Domestic Ferret (*Mustela putorius furo*): A Retrospective Study,” S Bouchiha, B. Williams, D Young, M Garner. Poster.
 39. December 2001: Salt Lake City, Utah, American College of Veterinary Pathologists Annual Meeting, Neuropathology Mystery Slide Seminar, “Canine Ocular Medulloblastoma: A Case Presentation,” FY Schulman.

PUBLICATIONS

Journal Articles

1. Blanchard TW, Santiago NT, Lipscomb TP, Garber RL, McFee WE, Knowles S. Two novel alpha-herpesviruses associated with fatal disseminated infections in Atlantic bottlenose dolphins. *J Wildl Dis.* 2001;37:297-305.
2. Burkman KD, Moore GE, Peterson MR. Incidence of zoonotic diseases in military working dogs serving in Operations Desert Shield and Desert Storm. *Mil Med.* 2001;166:108-111.
3. Colgin LMA, Schulman FY, Dubielzig RR. Multiple epulides in 13 cats. *Vet Pathol.* 2001;38:227-229.
4. Dubey JP, Garner MW, Willette MM, Batey KL, Gardiner CH. Disseminated toxoplasmosis in magpie geese (*Anseranas semipalmata*) with large numbers of tissue cysts in livers. *J Parasitol.* 2001;87:219-223.
5. Lipscomb TP, Mense MG, Habecker PL, Taubenberger JK, Schoelkopf R. Morbilliviral dermatitis in seals. *Vet Pathol.* 2001;38:724-726.
6. Patterson-Kane JC, Schulman FY, Santiago N, McKinney L, Davis C. Mixed germ cell tumor in the eye of a dog. *Vet Pathol.* 2001;38:712-714.
7. Schulman FY, Krafft AE, Janczewski T. Feline cutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus infection. *Vet Pathol.* 2001;38:291-296.
8. Moore GE, Burkman KD, Carter MN, Peterson MR. Causes of death or reasons for euthanasia in military working dogs: 927 cases (1993-1996). *J Am Vet Med Assoc.* 2001; 15:209-214.
9. Wallin LL, Coleman GD, Froeling J, Parker GA. Rhinosporidiosis in a domestic cat. *Med Mycol.* 2001;39:139-141.
10. Watson RP, Blanchard TW, Mense MG, Gasper PW. Histopathology of experimental plague in cats. *Vet Pathol.* 2001;38:165-172.

Abstracts

1. Frost, D. Gastrointestinal stromal tumors and leiomyomas in the dog. *Vet Pathol.* 2001;38:575. Abstract 21.
2. McFee WE, Lipscomb TP, Bradford JP, Zolman ES. Vertebral and atlanto-occipital ankylosis in a bottlenose dolphin with gout-like soft tissue lesions and vaginal calculus. In: *Fourteenth Biennial Conference on the Biology of Marine Mammals, The Society for Marine*

Mammalogy; 2001.

3. Schulman FY, Krafft AE, Janczewski T, Reupert R, Jackson K, Garner MM. Camelid mucocutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus infection. *Vet Pathol.* 2001;38:575.
4. Saladino B, Williams B, McLean I. Retinal degeneration in the domestic ferret. *Vet Pathol.* 2001;38:573.
5. Tortella FC, Williams AJ, Hale SL, Elliot P. Neuroprotection and ischemic brain injury in rats: improved therapeutic window obtained with the anti-inflammatory drug PS519. Society for Neuroscience Annual Meeting; 2001.
6. Williams AJ, Tortella FC, Yao C, Yu ZY, Hale SL, Berti R, Dave JR. Expression of sodium channel genes following ischemic injury: an in situ hybridization study. Society of Neuroscience Annual Meeting; 2001.
7. Bouchiha S, Williams B, Young D, Garner M. Vascular neoplasia in the domestic ferret (*Mustela putorius furo*): a retrospective study. *Vet Pathol.* 2001;38:580. Abstract 41.

Other Publications

1. Dunn DG, Inskeep W, Martinez MJ, Scott DP, Eastep JC, Eggers JS, Moeller RB. *Veterinary Necropsy Protocol for Military Working Dogs and Pathology Specimen Submission Guidelines*. Washington, DC: Headquarters, Department of the Army; Army Technical Bulletin Medical 283.
2. Rietchek RL. *2000-2001 Wednesday Slide Conference*. Washinton, DC: Armed Forces Institute of Pathology; 2001.

Book Chapter

Wilson T, Gregg D, King D, Noah D, Perkins L, Swayne D, Inskeep W. Agroterrorism, biological crimes, and biowarfare targeting animal agriculture: the clinical, pathologic, diagnostic, and epidemiologic features of some important animal diseases. In: *Clinics in Laboratory Medicine*. Philadelphia, Pa: WB Saunders Company; 2001.

GROUP 5

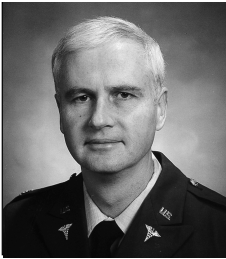
LEGAL MEDICINE & FORENSIC SCIENCES

LEGAL MEDICINE

OFFICE OF THE ARMED FORCES
MEDICAL EXAMINER

DIVISION OF FORENSIC TOXICOLOGY
DOD DNA REGISTRY





Frank T. Flannery, COL, MC, USA
Chair
Date of Appointment — 9 October 1990

○ ○ ○
○ ○ ○
○ ○ ○

DEPARTMENT OF LEGAL MEDICINE

MISSION

The mission of the Department of Legal Medicine includes consultation, education, and research on medicolegal, medical quality assurance, and risk management matters confronting the military, federal agencies, and civilian sectors.

STAFF

Medical:

Frank T. Flannery, COL, MC, USA
Richard L. Granville, MD, JD
William J. Oetgen, MD, MBA

Legal:

(D) Georgia A. Martin, RN, JD, PhD
(D) Jennifer L. Walters, JD
Jill E. Thach, JD
(A) Phyllis K. Oetgen, MSW, JD
(A) Allan Cash, RN, JD

Administrative:

Virginia R. Hunt, Legal Assistant
(D) Licardello J. Ware, TSgt, USAF, Administrative Assistant
(D) Amy Fine, BA, Database Administrator
Anne Marie Schroeder, Secretary
Herman Furlow, Administrative Assistant
Daniel Wheatley, MS, Statistics Specialist
(A) Karen Hough

QUALITY MANAGEMENT/RISK MANAGEMENT CONSULTATION

Cases	Completed
Military	448
Army	(110)
Navy	(184)
Air Force	(154)
Federal	271
DOJ (BOP)	(271)
Civilian	0
Interdepartmental	8
Total	727

The above cases reflect the department's involvement in several different areas of medicolegal consultation for the Department of Defense (DoD) and other federal agencies:

1. The department has continued its active involvement in various senior-level committees within the Department of Defense. The department served on the quarterly Department of Defense Risk Management Committee, contributing medicolegal information to the senior leadership of the Department of Defense. Members of the Department of Legal Medicine also participated in the Centralized Credentials Quality Assurance System (CCQAS) Configuration Control Board. The CCQAS database will be an integral part of the Department of Defense Quality Assurance program. Not only will it contain the credentials on all privileged health care providers within the Department of Defense, but it will also contain the medical malpractice cases and adverse privilege action cases that have been completed at DoD health care facilities. The department also in 2001 participated actively on the DoD Patient Safety Working Group. This senior level committee has been responsible for the implementation of the Patient Safety Program within the Department of Defense. The AFIP, by public law, has been centrally situated in this effort as the site of the Military Health System (MHS) Patient Safety Center.
2. The department also has continued its monitoring of the review of medical malpractice cases by the Keystone Peer Review Organization (KePro). All paid medical malpractice cases, where the initial determination has been that the applicable standard of care was met or a system problem has occurred, are reviewed by the Keystone Peer Review Organization. The department evaluates these reviews for their completeness and timeliness, and informs the Office of the Assistant Secretary of Defense for Health Affairs (OASD (HA)) of any problems with this program.
3. The department has continued to maintain an active cooperative working arrangement with the Department of the Treasury. The Financial Management Service staff of the Department of the Treasury meets with the Department of Legal Medicine staff on a monthly basis. Reports of all closed medical malpractice payments involving DoD health care providers are produced by Department of Legal Medicine (DLM) staff. This information is then forwarded to appropriate personnel in the Offices of the Surgeons General of the Army, Navy, and Air Force, as well as (OASD (HA)). These reports are vitally important to enable the timely required response to paid medical malpractice cases. Selected cases, by law, are required to be forwarded to the National Practitioner Data Bank.
4. The department through its activities on the CCQAS Configuration Control Board has facilitated the transition from the Tort2 and the Clin2 databases. The CCQAS database, which is expected to be deployed in early 2002, will replace those 2 databases. The Tort2 database is the traditional medical malpractice database used by OASD (HA) for review and analysis of medical malpractice cases. The Clin2 database has been used to similarly examine adverse clinical privilege actions throughout the military health care system.
5. The department has continued its 2 sharing agreements with other agencies involving consultative assistance in the performance of credentials verifications of newly hired health care providers. The department verified the credentials and malpractice claims histories of 263 newly hired health care providers for the Bureau of Prisons. The department also verified the credentials and claims histories of 126 health care providers for the Navy Recruiting Command.
6. The department continued to perform case reviews of medical malpractice cases from the Bureau of Prisons and reviews of cases referred from the Department of Health and Human Services Inspector General's office to determine the appropriateness of the medical care. These cases are only done on a selected basis, as time permits.
7. The department has also maintained its repository of closed DoD malpractice claims. In 2001, the department accessioned and catalogued 655 newly closed DoD malpractice cases.

Impact:

In 2001, the most significant area of involvement in the DoD Risk Management effort was departmental participation in the Patient Safety Working Group and the development of the DoD Patient Safety Center at AFIP, which underwent a great deal of change. First, the Health Care Team Coordination program was formed, and 2 major programs are being developed. The Medical Team Management (MTM) program, developed by the United States Air Force at Eglin AFB, is being deployed throughout all Air Force facilities. Two active-duty Air Force officers are stationed at the DoD Patient Safety Center in the Department of Legal Medicine to deploy this important error-reduction program. The other military services are also involved

with this effort. The MedTeams program also underwent significant development in 2001. This important research project is funded through direct appropriations from Congress, and continues to command significant legislative interest and support. A labor and delivery expert panel was convened in Scottsdale, Arizona, to initiate the obstetric medical error-reduction project. This project is being accomplished in conjunction with a number of civilian health care facilities, including the Beth Israel Deaconess Hospital in Boston, the Brigham and Women's Hospital in Boston, and the Johns Hopkins Hospital in Baltimore, as well as military facilities, including Madigan Army Medical Center and Bremerton Naval Hospital. A Scientific Oversight Group, composed of noted individuals in academic medicine, was also formed in 2001, to insure the scientific integrity and utility of the data produced. The department also participated in MedTeams training in Durham, New Hampshire, with Dynamics Research Corporation (DRC). In the future, the department will be establishing a cadre of trainers for deploying MedTeams throughout DoD.

The second major area of involvement with Patient Safety involves the development and deployment of the Medication Errors Reduction (MedMARx) program. This program, developed by the US Pharmacopoeia, will be headquartered at the MHS Patient Safety Center, AFIP, and has been distributed to all DoD health care facilities.

The third area of development during 2001 was the completion of the pilot test for reporting medical errors to the AFIP. Five military treatment facilities participated in this pilot test, and subsequent training occurred at the Uniformed Services University of the Health Sciences School of Medicine and Portsmouth Naval Hospital. The DoD instruction was completed and signed during this timeframe.

Finally, the department engaged in the development of the AFIP Web site related to the Patient Safety Program. Individuals within the DoD can apply for Patient Safety training through this Web site. A Patient Safety newsletter was also produced twice in 2001, to report on the activities of the MHS Patient Safety Program. This high-visibility program has the full support of OASD (HA), and significant funding is expected in 2002.

EDUCATION

Presentations and Seminars: Department staff made 8 presentations in 2001. Dates and titles are listed at the end of this report.

Educational Aids: The department continued its annual risk management and quality assurance journal, *Legal Medicine*. The journal has been printed and placed on the Internet as well. Clinicians who satisfactorily complete a quiz after studying the journal receive 5 hours of continuing medical education credits. The department sends copies of *Legal Medicine* to all medical corps officers of the 3 military services. Many physicians in the Department of Veterans Affairs, as well as other federal physicians, receive complimentary copies of this valuable risk management educational product. During 2001, 17,645 continuing medical education hours were provided to physicians worldwide. Nearly half of the total credit hours were granted to military and other federal physicians. The *Journal of Nursing Risk Management* was also produced. This Internet-based publication is free to military nursing professionals and provides them with relevant medical-legal material. When nurses complete an examination successfully, they are awarded appropriate continuing education units.

RESEARCH

Publications: Department staff published 7 articles in 2001. Complete information is listed at the end of this report.

OTHER ACCOMPLISHMENTS

Faculty Appointments: Georgetown University, Clinical Assistant Professor, Department of Family Medicine, F Flannery.

New Missions: As stated above, the major new mission of the Department of Legal Medicine centered around the development of a Patient Safety Center at the AFIP, as part of the MHS Patient Safety Program. The department also has become involved with the Health Care Team Coordination program by virtue of its management of the MedTeams program.

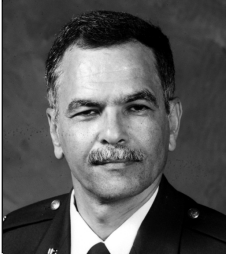
PRESENTATIONS

1. January 2001: Bethesda, Md, USUHS, Presented to the DoD Patient Safety Working Group, "Military Health System Patient Safety Report," RL Granville.
2. April 2001: Washington, DC, AFIP Dart Lecture, "Quality Assurance in Cardiovascular

- Medicine," W Oetgen.
3. June 2001: Bethesda, Md, USUHS, MedTeams Expert Panel, "Update: Labor and Delivery Project," RL Granville.
 4. August 2001: Bethesda, Md, USUHS, "The DoD Patient Safety Center," JL Walters.
 5. August 2001: Bethesda, Md, USUHS, "The DoD Patient Safety Center at USUHS," P Oetgen.
 6. August 2001: Chesapeake, Va, Chesapeake Conference Center, "The DoD Patient Safety Center," P Oetgen.
 7. October 2001: Arlington, Va, Skyline, Tricare Clinical Quality Council, "Overview of DoD Medical Malpractice," RL Granville.
 8. December 2001: Washington, DC, US Treasury Department, "DoD Risk Management Treasury Data Presentation," RL Granville.

PUBLICATIONS

1. Tackett S, Birk CC. The patient safety mandate – rebuilding the trust and creating a reporting system. *Legal Medicine*. 2001:7-16.
2. Casciotti JA, Walters JL. Military health system patient safety program: a legal foundation for preventing medical errors. *Legal Medicine*. 2001:17-23.
3. Stone FP. Medical team management: using teamwork to prevent medical errors. *Legal Medicine*. 2001:26-30.
4. Weiss RB. Breast cancer litigation: another aspect of the story. *Legal Medicine*. 2001:31-35.
5. Lenart MJ. Fetal tissue and stem cell research – a reasoned discussion. *Legal Medicine*. 2001:36-41.
6. Kaar JF. Genetic data, privacy, and discrimination. *Legal Medicine*. 2001:42-47.
7. Thach JE. AFIP's top civilian. *Legal Medicine*. 2001:49-50.



AbuBakr A. Marzouk, Col, USAF, MC, FS
Armed Forces Medical Examiner, (Acting)
Date of Appointment – 1 February 2001



OFFICE OF THE ARMED FORCES MEDICAL EXAMINER (OAFME)

MISSION

The Office of the Armed Forces Medical examiner is primarily responsible for multidisciplinary forensic (medicolegal) investigations of unnatural or violent deaths due to known or suspected accidents, homicide, suicide, or undetermined means. In these cases, the OAFME must establish positive identity by scientific means, determine the cause and manner of death, and certify the death. This responsibility normally applies to:

- Members of the Armed Forces on active duty or on active duty for training.
- Civilians, including dependents of military members, whose deaths come under exclusive federal jurisdiction.

Deaths to be investigated include, but are not limited to, the following categories:

1. Unnatural or violent deaths from known or suspected accidents, homicide, suicide, or undetermined means.
2. Deaths related to the occupation or employment of the deceased and deaths of individuals enrolled in the Personnel Reliability Program.
3. Deaths related to vehicular, aircraft, or vessel accidents.
4. Sudden and unexpected deaths in which the cause of death is not readily apparent.
5. Deaths potentially related to diseases that might constitute a threat to the public health.
6. Deaths of individuals who are in the custody of law enforcement officials.
7. When the commander of a military medical treatment facility (MMTF) where the death occurred or the decedent's commander in the grade of O to 4 or higher notifies the OAFME that a medicolegal investigation on a military member is necessary for reasons of US national security or for the protection of the military community.

The department reviews cases in consultation and conducts on-site medicolegal investigations, providing consultative as well as diagnostic services to the Department of Defense and other federal and nonfederal agencies. In addition, when requested and approved by higher authority, these services may be extended to foreign governments.

ORGANIZATION

The Armed Forces Medical Examiner (AFME) performs the executive functions of the OAFME. Administrative and fiscal functions are provided, as well as oversight of the 6 OAFME divisions and regional and associate medical examiner functions and responsibilities under the Armed Forces Medical Examiner System (AFMES).

1. Medicolegal Investigations and Operations (OPS) – Bruce Ensign, Maj, USAF, MC, FS. This division is responsible for day-to-day OAFME operations to support worldwide forensic consultations and on-site investigations, including aircraft accidents.
2. Education and Research – Andrew Baker, Maj, USAF, MC. This division coordinates and facilitates all departmental education and research efforts. This includes fellowship and residency programs sponsored by military and civilian education institutions.

3. Special Investigations – William C. Rodriguez III, PhD This division is responsible for anthropological investigation and consultation for the OAFME. It also maintains the Trace Materials Analysis Laboratory to aid the OAFME in identifying materials associated with medicolegal investigations.
4. Forensic Toxicology – Aaron Jacobs, COL, MS, USA. This division provides toxicology laboratory testing and consultation for OAFME investigations and for the Department of Defense Drug-testing Quality Assurance Program. It also provides education and research for this discipline. The division is organized into 4 branches: the DoD Drug Testing Branch; the Forensic Toxicology Branch; the Research and Education Branch; and the Quality Assurance Branch.
5. Department of Defense DNA Registry – Brion C. Smith, COL, DC, USA. This division encompasses the Armed Forces DNA Identification Laboratory (AFDIL), which is responsible for DNA-based identification of human remains for the Office of the Armed Forces Medical Examiner, and for performing consultation, education, and research in the area of forensic DNA analyses. The division also maintains the Armed Forces Repository of Specimen Samples for the Identification of Remains for the Department of Defense.
6. Mortality Surveillance Division - LTC Bruno Petrucci (USACHPPM) was the lead project officer for the DoD Mortality Registry from January through August 2001. Lisa Pearce, MAJ, MC, USA of the Office of the Armed Forces Medical Examiner was the lead project officer beginning in September 2001. Other staff for 2001 consisted of Dr. Robert Potter (ARP epidemiologist, paid with GEIS funds). Dr. Joel Gaydos was the primary liaison from the DoD-GEIS Central Hub.

The goals of the DoD Mortality Surveillance Division are to establish a mortality surveillance system to monitor all active-duty deaths, to quickly identify those deaths that could be the result of an infectious etiology and to take timely and appropriate steps to identify the agent or agents responsible. In addition, there is a database/registry function that will allow for analysis and reporting of mortality data, to include trends.

Methods - The basic elements of an Army mortality surveillance system were established in the Armed Forces Medical Examiners Office in 2000. Army Casualty Office information is e-mailed daily to the Medical Examiner's Office, where it is reviewed for potentially infectious causes of death. Cases that could be infectious are investigated, and cultures are requested from the local pathologists. However, Air Force and Navy deaths are reported through the Defense Message System, and despite tremendous effort at acquiring access to this system, the Office of the Armed Forces Medical Examiner is still unable to gain access and has no routine visibility on deaths from those services.

Progress and Accomplishments - The AFIP, USACHPPM, and DoD-GEIS continue to work together to develop a working system that will both achieve the DoD-GEIS objectives and fulfill broader DoD mortality surveillance needs. A formal memorandum of agreement between DoD-GEIS and AFIP was signed, which provides 180K of funding (designated specifically for personnel) annually for 3 years. An authorization was created and a full-time Army preventive medicine officer was assigned to AFIP to manage the project.

Dissemination of Information - E-mail communication to DoD-GEIS, public health officers, and leadership physicians was routinely used to rapidly disseminate information about cases that were due to infectious causes that could have a public health impact. Briefings were provided to both the Air Force and Army Surgeons General to familiarize them with and to gain support for the program.

Training - Mortality surveillance has been incorporated into the Navy's residency in aerospace medicine practicum rotation through the Medical Examiner's Office.

Use of Resources - In 2001, the Mortality Surveillance Division spent \$40,349.94 of DoD-GEIS grant money exclusively for the salary of 1.5 FTE MPH level analysts. There is no designated budget for this program through the Armed Forces Institute of Pathology, and a UFR request through MEDCOM has been denied.

Conclusions - The basic structure for an Army Mortality Surveillance System has been developed, although funding and automation remain significant issues. Two specific areas for improvement that will be targeted in the next fiscal year are the development of syndrome-based protocols for specimen collection and analysis, and the expansion of the rapid notification system by the casualty offices to include the other services.

STAFF

Medical:

- AbuBakr A. Marzouk, COL, MC, USAF, FS, Acting Armed Forces Medical Examiner
- (D) Jerry D. Spencer, MD, JD, Armed Forces Medical Examiner, Distinguished Scientist
- Bruce Ensign, Maj, USAF, MC, Medicolegal Investigation
- Brion C. Smith, COL, DC, USA, Chief Deputy Medical Examiner, DoD DNA Registry
- (D) Joyce Lapa, CDR, MC, USN, Chief Deputy Medical Examiner, Education and Research Branch
- Peter Schilke, Maj, USAF, MC, Deputy Medical Examiner
- Andrew Baker, Maj, USAF, MC, Deputy Medical Examiner, Education and Research
- Scott E. Kornman, Maj, USAF, MC, Associate Medical Examiner
- (D) Steven C. Campman, Maj, USAF, MC, Deputy Medical Examiner
- Stephen L. Robinson, CDR, MC, USN, Regional Medical Examiner (San Diego, Calif)
- Kathleen Ingwersen, LTC, MC, USA, Regional Medical Examiner (Landstuhl, Germany)
- James W. Green, CAPT, MC, USN, Regional Medical Examiner (Far East)
- (D) Craig Mallak, LCDR, MC, USN, Regional Medical Examiner, (Millington, Tenn)
- Eric Berg, LTC, MC, USA, Regional Medical Examiner (Fort Campbell, Ky)
- Douglas Knittel, CDR, MC, USN, Regional Medical Examiner, (Portsmouth, Va)
- Elizabeth Rouse, Maj, USAF, MC, Regional Medical Examiner (San Antonio, Tex)

Scientific:

- William C. Rodriguez, III, PhD, Chief Deputy Medical Examiner, Special Investigations, Forensic Anthropology, Distinguished Scientist

Administrative:

- Betty L. Streams, BS, Administrative Officer
- Robert Veasey, Operational Administrator/Investigator, ARP
- Russell Strasser, Special Agent, NCIS
- Jean T. Lawson, Secretary
- Carolyn Parker, BS, Administrative Assistant, ARP
- Joyce White, Secretary
- Sean Doyle, PHC, USN, Photographer
- Louis Briscese, TSgt, USAF, Photographer
- Michael Godwin, TSgt, USAF, Administrative Assistant
- Christopher L. Williams, PH3, USN, Photographer

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	385
Federal	34
Civilian	86
Total	505

The OAFME accessioned 790 cases during 2001. The majority of the forensic pathology consultations were submitted by, or in conjunction with, the military services investigative agencies (NCIS, CID, or OSI) as part of a medicolegal investigation. The remainder of the contributors were military pathologists and other federal agencies, such as the Department of Justice, the FBI, and the Department of Labor.

Regional and Associate Medical Examiners:

AFME appointed (with the concurrence of the service Surgeons General) regional medical examiners (RME) and associate medical examiners (AME), who continued to significantly expand our geographic scope. The RMEs and AMEs conducted 464 medicolegal investigations in 2001, under the guidance of the OAFME, directly reflecting immense savings in travel dollars and man-hours for the government. The RMEs and AMEs are located at Lackland AFB, Brook Army Medical Center, and Ft Hood, Tex; Ft Campbell, Ky; Ft Rucker, Ala; NMC Portsmouth, Va; NMC San Diego, Calif; Tripler ARMC, Hawaii; Landstuhl ARMC, Germany; and Camp Lester, Okinawa, Japan.

Anthropology Consultations:

The number of OAFME cases requiring specialized examinations remained in great demand,

with a major increase in caseload. OAFME directed multiple on-site military homicide investigations requiring body recovery and examination. Three out-of-country missions were conducted, including 2 to Kiev, Ukraine, to investigate the death and examination of an international journalist whose murder is thought to be linked to the Ukraine government. A third mission was conducted that involved the examination and identification of remains of 3 American citizens who were murdered by Serbian police near the end of the war in Kosovo. Anthropological support was of primary importance during the examination of the remains of the victims of the September 11 attack on the Pentagon and the American Airlines crash in Shanksville, Pa. Extensive anthropological consultation was provided to the US Navy concerning recovery and examination of the victims of the Japanese fishing ship, the *Eheme Maru*, which was accidentally sunk off the coast of Hawaii. Anthropological consultation support was also provided to various DoD branches concerning war crime investigations in Kosovo and Bosnia, and to the US Justice Department multiple high-profile homicides both in the US and abroad.

Special Investigation Division of OAFME:

The Special Investigation Division continued its support by providing forensic anthropological and trace evidence expertise to an ever-increasing number of OAFME cases. Search and recovery expertise was also provided to a number of military investigations, as well as to local civilian police jurisdictions. The Special Investigation Division continued to engage in multiple projects in ballistics research, blood spatter analysis, and footwear impression. The examination of various trace evidence associated with badly decomposed and skeletonized remains was greatly curtailed due to the retirement of the chief of Trace Material Laboratories, Msgt Grant Graham. Research at the OAFME Ballistic Range was also curtailed due to key personnel losses within the office.

Impact:

The Office of the Armed Forces Medical Examiner has continued to provide outstanding service and support of Department of Defense and other federal agencies. During 2001, both the autopsy examinations provided on missions and written consultations were invaluable in promoting aviation safety and the administration of justice. Specific noteworthy missions of high national interest included consultations on *Eheme Maru* (the Japanese fishing vessel accidentally sunk by the US Navy off the coast of Hawaii), *USS Cole* secondary recovery specimens, and the Pentagon terrorist attack.

Deployments:

OAFME teams deployed on 40 medicolegal missions. On-site scene investigations were conducted in all of these deployments:

1. January 3, 2001, Roosevelt Roads, Puerto Rico, accident investigation, Maj Campman.
2. January 22, 2001, Ft Ustis, Norfolk, Va, CDR Knittel.
3. January 30, 2001, examination of human skeleton, Ft Belvoir, Va, Dr. Rodriguez, Maj Campman, Mr. Veasey, PH3 Williams.
4. January 30, 2001, child death investigation, Ft Belvoir, Va, Maj Baker, PH3 Williams.
5. February 3, 2001, Columbus AFB, suicide investigation, Maj Kornman, PH3 Williams.
6. February 3, 2001, C-21 accident investigation, Maj Kornman, Mr. Veasey, PH3 Williams.
7. February 4, 2001, Ch Point, NC, AV-8 carrier mishap investigation, Maj Campman, Maj Schilke, TSgt Briscese.
8. February 7, 2001, SGW, suicide investigation, Baltimore, Md, Col Marzouk, PH3 Williams, Maj Ensign.
9. February 13, 2001, Hawaii, UH-60 helicopter mishap investigation, Maj Baker, Mr. Veasey, Maj Ensign, TSgt Briscese.
10. February 23, 2001, Ft Belvoir, Va, death investigation, Maj Schilke, TSgt Briscese.
11. February 22, 2001, Bethesda, Md, MVA, Col; Marzouk, PH3 Williams.
12. March 3, 2001, C-23, Sherpal National Guard plane, Unadilla, Ga, Dr. Beach, Maj Campman, Maj Baker, Maj Ensign, Maj Kornman, CDR Lapa, Maj Schilke, SA Strasser, TSgt Godwin, PHC Doyle, PH3 Williams, TSgt Briscese, Dr. Krugr, Dr. Blanchard, LtCol Washington, Dr. Ferris, SA Sentell, Dr. Childers, Dr. Black, Dr. Rice, Dr. Webster.
13. March 12, 2001, training bombing investigation, Kuwait, at Landstul, Col Marzouk, PH3 Williams, TSgt Briscese, LTC Ingwersen.
14. April 7, 2001, helicopter Mi-17 crashed in Quang Binh Providence, Vietnam, in Hawaii,

Maj Campman, Maj Baker, TSgt Briscese.

15. April 17, 2001, suicide investigation, Andrews AFB, Maj Baker, SA Strasser.
16. May 11, 2001, infant death investigation, Camp Lejeune, NC, Maj Baker.
17. May 29, 2001, F-18 mishap investigation, St Lucie, Fla, Maj Ensign, PH3 Williams, Mr. Veasey, CDR Knittel.
18. June 2, 2001, hanging investigation, Romney, WV, Maj Kornman.
19. June 8, 2001, T-34 mishap investigation, Pensacola, Fla, Maj Baker, TSgt Briscese, Mr. Veasey.
20. June 21, 2001, suicide investigation, LCDR Mallak
21. July 3, 2001, death investigation, Puerto Rico, LCDR Mallak.
22. July 6, 2001, F-16 mishap investigation, Shaw AFB, SC, Mr. Veasey, Maj Kornman, PHC Doyle.
23. July 9, 2001, CH-46 mishap investigation, Camp Lejeune, NC, Maj Ensign, Mr. Veasey, PHC Doyle, LCDR Mallak.
24. July 17, 2001, F-18 mishap investigation, China Lake, Calif, Maj Ensign, Mr. Veasey, PH3 Williams, Col Pemble.
25. July 27, 2001, pilot Yukon MOA Alaska aircraft training exercise death investigation, Maj Ensign, CDR Robinson.
26. July 30, 2001, Iceland rock climbing accident investigation, Maj Baker, Maj Kornman.
27. Death investigation, Camp Lejeune, Dr. Rodriguez, Mr. Veasey.
28. August 14, 2001, homicide investigation, Hilo, Hawaii, LCDR Mallak.
29. August 22, 2001, F-18 investigation, Yuma, Ariz, CDR Robinson, TSgt Briscese, Mr. Veasey.
30. August 24, 2001, T-38 mishap investigation, Sheppard AFB, Tex, Maj Ensign, PH3 Doyle.
31. August 30, 2001, homicide/suicide investigation, Ft Benning, Ga, Maj Baker, PH3 Williams, SA Strasser.
32. September 11, 2001, terrorist act on the Pentagon, Washington, DC, bodies were sent to Dover.
33. September 26, 2001, burn investigation, Mountain Home AFB, Iowa, Maj Baker, SA Strasser, PH3 Williams.
34. October 3, 2001, Dover, Del, drowning investigation, Maj Kornman, SA Strasser, SSgt Briscese.
35. October 13, 2001, death investigation, Andrews AFB, Va, Maj Kornman, TSgt Godwin.
36. October 13, 2001, Camp Lejeune, NC, gunshot wound, body found, CDR Knittel.
37. October 27, 2001, Baltimore, Md, homicide investigation, Maj Baker, SA Strasser, PH3 Williams, SA Strasser.
38. October 31, 2001, Death investigation, Bethesda, Md, Maj Kornman, TSgt Godwin.
39. November 27, 2001, homicide investigation, Baltimore, Md, Maj Baker, SA Strasser, PH3 Williams.
40. December 5, 2001, Afghanistan, Combat, Maj Ensign, TSgt Briscese.

Quality Assurance:

The OAFME Quality Assurance Program has maintained its group quality peer review of 100% of the consultation cases. The forensic pathologists participate in the biannual College of American Pathologists Apex Forensic Pathology and Autopsy Pathology Programs. Check Samples in Forensic Pathology are also reviewed regularly.

EDUCATION

Presentations and Seminars: The OAFME staff gave 11 presentations in 2001. Six Conferences were conducted per week, where working cases were presented to staff and visitors.

Courses:

The OAFME staff participated in 1 AFIP course sponsored by other departments. The AFIP course conducted by our department is Basic Forensic Pathology. The total attendee- days for this course was 70.

Trainees:

Maj Bruce Ensign completed the AFIP Forensic Pathology Residency of 365 days duration. Three military services investigative agents completed the AFIP Fellowship Program while attaining their master's of forensic science degree in 2001: Terry Bullard (Air Force), Michael Graziano (Army), and David Pauly (Army). Approximately 80 trainee-days were accomplished by this group at AFIP. This program greatly benefits our medicolegal investigative efforts worldwide, in that these special agents then serve as forensic specialists and coordinators throughout the world.

RESEARCH

Publications: OAFME staff published 4 articles in 2001.

OTHER ACCOMPLISHMENTS

Two OAFME staff received appointments as professorial lecturers at George Washington University. OAFME staff testified as expert witnesses in 3 homicide trials and 1 assault case, and had multiple media appearances, including national television. OAFME designed and manned exhibits at the following meetings: the American Academy of Forensic Sciences, the Aerospace Medical Association, and the Association of Military Surgeons of the United States.

Collaborators:

OAFME works closely with the military services safety centers in aircraft accident investigations, safety issues, and educational endeavors for their respective aeromedical communities. We also provide aviation pathology training to the Canadian aeromedical community.

Committees:

1. National Association of Medical Examiners Board of Directors, J Spencer.
2. National Association of Medical Examiners Ad Hoc Committee on Chemical and Biological Terrorism, Maj A Baker.

Editorial Boards:

1. *American Journal of Forensic Medicine and Pathology* - William Rodriguez, III.
2. *Journal of Forensic Sciences* - W Rodriguez, III.

Consultants:

W Rodriguez, III

- Chief forensic anthropological consultant for the State of Maryland and the District of Columbia.
- Chief consultant, FBI Forensic Science Training Unit and the FBI's Child Abduction and Serial Killer Unit.
- Codirector of the FBI's yearly Evidence Response Team Field Course, Search and Recovery of Decomposed and Skeletonized Remains Evidence Response Team, FBI National Training Academy, Quantico, Va.

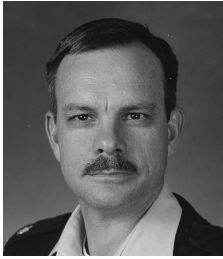
PRESENTATIONS

1. January 2001: Rockville, Md, George Washington University/Armed Forces Institute of Pathology Master's of Forensic Sciences Program, "Principles of forensic pathology," A Baker.
2. May 2001: Newport, RI, Naval Justice School, Newport Naval Station, "Government capital litigation," A Baker.
3. July 2001: Newport, RI, Naval Justice School, Newport Naval Station, "Defense capital litigation," A Baker.
4. August 2001: Leesburg, Va, Bureau of Alcohol, Tobacco, and Firearms Training Program, "Post-blast injuries," S Kornman.
5. September 2001: Rockville, Md, George Washington University/Armed Forces Institute of Pathology Masters of Forensic Sciences Program, "Principles of forensic pathology," A Baker.
6. October 2001: Brooks AFB, Tex, Air Force School of Aerospace Medicine, Aerospace Medicine Primary Course, B Ensign.
7. October 2001: Brooks AFB, Tex, Aircraft Mishap Investigation and Prevention Course, B Ensign.

8. November 2001: Rockville, Md, Armed Forces Institute of Pathology, American Registry of Pathology, Office of the Armed Forces Medical Examiner, Basic Forensic Pathology Course, B Ensign.
9. November 2001: Charlottesville, Va, US Army Judge Advocate General's School, Criminal Law New Development Course, A Baker.
10. November 2001: Bethesda, Md, Armed Forces Institute of Pathology American Registry of Pathology, Office of the Armed Forces Medical Examiner, Basic Forensic Pathology Course, A Baker.
11. December 2001: Orlando, Fla, Institute for Pediatric Medical Education and the Society for Pediatric Pathology, 5th Annual Pediatric Forensic Issues, "Pathology, diagnosis, imaging and investigation," A Baker.

PUBLICATIONS

1. Sledzik PS, Rodrigues WC. Damnum fatale: the fate of human remains in mass disasters. In: Haglund W, Sorg M, eds. *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*. Boca Raton: Fla: CRC Press; 2001:321-330.
2. Baker AM, Davis DW, Berg KK. Polyclonal systemic immunoblast proliferation: an unusual hematologic entity presenting as a medical examiner case. *J Forensic Sci.* 2001;46:156-159.
3. Baker AM, Keller G, Garcia D. A novel hunting accident: discharge of a firearm by a hunting dog. *Am J Forensic Med Pathol.* 2001;22:285-287.
4. Mallak C. Saddams revenge. *Am J Forensic Med Pathol.* 2001;22:43-45.



Brion C. Smith, COL, DC, USA
Chief Deputy Medical Examiner
Director, DoD DNA Registry



DoD DNA REGISTRY OFFICE OF THE ARMED FORCES MEDICAL EXAMINER

MISSION

The Department of Defense DNA Registry supports the ongoing missions of the Armed Forces Medical Examiner's Office (OAFME) and the AFIP through consultation, education, and research. We also support the US Army Central Identification Laboratory-Hawaii (CILHI) in the identification of human remains recovered from prior armed conflicts of the United States. We are the global leader in the fields of human remains identification, forensic DNA analysis, and mass-fatality management, as well as reference specimen collection and DNA sample repository services.

STAFF

Administrative:

James J. Canik, Deputy Program Director (ARP)
Thomas J. Parsons, PhD, Chief Scientist (ARP)
Deborah Baker, Administrative Assistant (ARP)
Araceli Galapon, Administrative Assistant (ARP)
Jeanette Ransom, Secretary (GS)
Richard Lewis, BS, RMT, Quality Assurance/Safety Officer (GS)
(A) Theodore D. Anderson, MFS, Training and Education Coordinator (ARP)

Information Technology Branch:

James P. Ross, Chief Information Officer (ARP)
Aaron Waldner, Network Administrator (EDS)
Manuel Aniebonim, PhD, LIMS Project Manager (FTI)
Richard Coughlin, Network Administrator (FTI)
Vinh Lam, Associate Analyst (FTI)
Earl Belala, System Analyst (FTI)
Jon Norris, System Analyst (FTI)
John Connors, Associate Analyst (FTI)
(D) Brian Burman, LIMS/DRIMS Project (FTI)

Resource Management Office:

Kevin S. Carroll, CLS (NCA), Resources Management Officer (GS)
Marjorie Q. Bland, BS, DNA Program Coordinator (GS)
Candace Eastman, MBA, Budget Analyst (ARP)
(A) Mauricio Rivera, Supply Technician (ARP)

AFDIL Mitochondrial DNA Section & Database Team:

Suzanne Barritt, MS, Technical Leader (ARP)
Christine A. Boyer, MSFS, Assistant Technical Leader (ARP)
Amanda Blanchard, MS, Assistant Technical Leader (ARP)
Jacqueline S. Raskin-Burns, MS, Supervisory DNA Analyst (ARP)
Michael A. Fasano, BA, DNA Analyst III (ARP)
Gail M. Conklin, MFS, Supervisory DNA Analyst II (ARP)
Diane Herman, MFS, DNA Analyst II (ARP)
Suni M. Edson, MFS, Supervisory DNA Analyst (ARP)
Chad M. Ernst, BS, DNA Analyst II (ARP)

- Jennie C. Groover, BS, DNA Analyst II (ARP)
Jennifer Kappeller, BS, DNA Analyst I (ARP)
Tracey L. Johnson, BS, DNA Analyst I (ARP)
Christopher G. Los, MFS, PCR Supervisor (ARP)
(A) Carna E. Meyer, MFS, DNA Analyst I (ARP)
(A) Kerri D. Murphy, MFS, DNA Analyst I (ARP)
Laura Cannon, MFS, DNA Analyst
Gregory N. Smith, MFS (ARP), DNA Analyst I (ARP)
Nicol R. Jimerson, BS, Supervisor, Database Team (ARP)
Miriam Narvaez-Thompson, BA, Database Analyst I (ARP)
George Lin, MFS, Database Analyst I (ARP)
(A) Nissa Abbasi, BS, DB Analyst
(A) Jill E. Appleby, BS, DNA Technician
(A) Amie L. Benson, MFS, PT DB Lab Assistant
(A) Sarah I. Bettiner, MSFS, DNA Technician
(A) Natasha Cabouet, BS, Lab Assistant
(A) Amy E. Champion, BS, PCR Technician
(A) Carter A. Cromartie, BS, Technician
(A) Danielle E. Goldstein, BSBA, Evidence Custodian
(A) Stephen D. Gresko, BS, DB Technician
(A) Craig W. King, BS, PCR Technician
(A) Kerry L. Maynard, BS, PT Lab Assistant
(A) Christy A. Smejkal, MS, DNA Analyst
(A) Richon E. Tate, BS, DB Technician
(A) Heather A. Thew, MS, DNA Technician
(A) Ryan E. Vachon, BA, DB Technician
(A) Jocelyn R. Weart, BS, PCR Technician
(A) Kristen A. Wojcik, MSFS, PCR Technician
(A) Marina M. Bruner, Casework Administrator
- AFDIL Nuclear DNA Section and QC Team:***
Demris A. Lee, MSFS, Technical Leader (ARP)
Kimberly B. Murga, MFS, AFDIL^{cs}, Supervisor
Susan Jones, PhD, DNA Analyst II (ARP)
Ethny Obas, MT, QC DNA Technician (ARP)
Robert M. Fisher, MFS, AFDIL^{cs}, Analyst (ARP)
(A) Jennifer F. Banaag, MFS, QC Technician
James Difrancesco, MFS, QC Technician
(A) Whitney E. Dimling, BS, QC Technician
- AFDIL Research Section:***
Thomas J. Parsons, PhD, Chief Scientist (ARP)
Jodi A. Irwin, MS, Research DNA Technologist II (ARP)
Michael D. Coble, Research DNA Technologist (ARP)
Ilona Letmanyi, Research DNA Technician (NIJ)
Christine T. Harvie, Research DNA Technician (NIJ)
- Proficiency Test Operations (PTO) Section:***
Theodore D. Anderson, MFS (ARP)
Kimberly B. Smigielski, MFS (ARP)
Gregory N. Smith, MFS (ARP)
- Armed Forces Repository of Specimen Samples for the Identification of Remains (AFRSSIR):***
David Boyer, Director, Repository Operations (ARP)
Herbert Simms, Inventory Management Specialist (GS)
Marie Reese, Quality Control Technician (ARP)
George Galapon, Senior Specimen Processor (ARP)
Marifae Vance, Senior Specimen Processor (ARP)
Gloria Lindmark, Senior Specimen Processor (ARP)
Arvin Solis, Specimen Processor (ARP)
Diane Giampetroni, Specimen Processor (ARP)
Tonya Summers, Specimen Processor (ARP)
(D) Marcelino G. Padilla, Jr, Specimen Processor (ARP)
Ernie Costes
Lisa Gallman, Specimen Processor (ARP)

(D) Michael Kokoski, Network Administrator, EDS
(D) Susan L. Haneklau, Systems Engineer, EDS
(A) Jackie Graham, Repository Supervisor (ARP)
(A) Steven Thompson, Specimen Processor (ARP)
(A) Michael Rhoades, Specimen Processor (ARP)
(D) Matthew Anders, Systems Administrator (EDS)
(A) Al Lambert, Network Administrator (EDS)
(A) Fred Justiniaro, Systems Administrator (EDS)

Impact:

Quality: Uncompromising quality is what distinguishes us from other laboratory organizations. It is the foundation on which the DoD DNA Registry is built, and we will not sacrifice it for the sake of expense or expediency. We do this by dedicating ourselves to the relentless pursuit of excellence in all services that we provide.

Integrity: Trust, both among ourselves and with colleagues external to our organization, is the cornerstone of our success. All of our processes, decisions, and actions are driven by personal and organizational integrity. We are honest and forthright in all our dealings with those for whom we provide services, and with each other. We are responsible participants in the forensic scientific community, and we exemplify steadfast principles in honest discourse and production.

Innovation: We constantly seek innovative ways to enhance the services we provide. We support the creativity, courage, and persistence that transforms ideas, thoughts, and dreams into knowledge, knowledge into insights, and insights into action. We seek continuous learning through the adaptation of existing knowledge, and through experimentation and research, with the full understanding that progress can be made through thoughtful trial and error.

Accountability: We accept full responsibility for our performance and acknowledge our accountability for the ultimate outcome of all that we do. We strive for continuous improvement, and believe that competence, reliability, and rigorous adherence to sound scientific principles and discipline are the keys to excellence. We look for others to do the same.

Collaboration: We believe in teamwork and the limitless possibilities of professional synergies. We, as an organization, achieve excellence by putting collective goals ahead of personal interests. We support and encourage open communication and meaningful participation in relevant scientific discourse among colleagues from various backgrounds. We respect individual differences, and we value the power of diversity when directed with unity of purpose.

Leadership: We strive to be the best at what we do. We embrace the foundations of personal leadership—courage, competence, confidence, and a passion for surpassing expectations. The Department of Defense DNA Registry fosters an environment of mutual respect, both professional and personal, and one in which the contributions of each employee are held in the highest regard. Integrity, trust, and an uncompromising commitment to excellence and innovation guide us in the successful accomplishment of our mission.

ARMED FORCES DNA IDENTIFICATION LABORATORY (AFDIL)

The Armed Forces DNA identification Laboratory (AFDIL) was fully staffed for CY2001, which included an increase of 11 full-time scientific staff positions for the mtDNA Section. These additional staff slots were a result of negotiated increases in CILHI casework. Staff positions in the nucDNA Section that had gone unfilled due to funding shortages and availability of suitable candidates were finally filled in 2001. While both administrative and laboratory space remain constrained, the morale of the staff remains extremely high. The AFIP has secured additional administrative and laboratory space, and is awaiting final renovations scheduled for the summer of 2002. This additional space will satisfy AFDIL's immediate needs and provide a healthier working environment.

Mitochondrial DNA Section:

The mtDNA Section of the AFDIL experienced dramatic levels of growth during 2001, and also broke all productivity records. The family reference databasing team of the mtDNA Section reported 616 reference bloodstain cards for the Family Reference Outreach Program of the Casualty and Memorial Affairs Operations Center (CMAOC). The relationship between the scientists and administrative staffs of AFDIL and Central Identification Laboratory, Hawaii

(CILHI) continues to strengthen. The interaction between these two organizations has been fostered by several activities this year. The DoD DNA Registry sponsored a joint AFDIL-CILHI symposium at the annual meeting of the American Academy of Forensic Sciences, and the scientific exchange program has continued, in which visiting scientists are exchanged every 4 to 6 months for a 1-week period.

Nuclear DNA Section:

The Nuclear DNA Section (nucDNA) is divided into 2 functions: consultative (casework) and supportive. The primary mission of the nucDNA section is to provide the Office of the Armed Forces Medical Examiner (OAFME) with DNA-based analytical services to assist in human remains identification of military personnel from recent death investigations. In 2001, the Nuclear DNA Section generated more than 95 identification reports for the OAFME and was often faced with, and met, the challenge of providing DNA identifications within 24 to 48 hours, allowing servicemembers to be identified and returned in a timely fashion.

The AFDIL Consultative Services (AFDIL^{CS}) Section was established to provide both nuclear and mitochondrial DNA (mtDNA) analytical services to local, state, and other federal agencies, as well as the civilian sector on a cost-reimbursement basis. The assigned staff members are highly skilled in the extraction of a number of difficult specimens, which include hair, bone, blood, other human tissue, and paraffin blocks. In addition to the criminal and human remains identification cases AFDIL^{CS} has accepted, they also analyzed biopsy slides and paraffin blocks from hospitals, medical centers, and other medical treatment facilities to assist in resolving any source “floaters” on slides or paraffin blocks, as well as potentially mislabeled specimens.

Quality control is very critical for a forensic laboratory, and the AFDIL is fortunate to have a team of dedicated personnel to ensure all equipment, reagents, and primers meet the established quality control standards for both nuclear and mitochondrial casework.

The position of training and education coordinator is a new addition to the Nuclear DNA Section. The training and education coordinator oversees all aspects of the various training programs for both the Nuclear and Mitochondrial DNA Sections, and established an invitational, prepaid international DNA Analytical Training Course as well as an internship program at the AFDIL. The training and education coordinator also organized an in-house statistics course taught by a well-known forensic statistician from the Forensics Department of Carlton University. The entire laboratory staff attended this course and earned college credit as well as fulfilled a requirement of the Department of Defense DNA Advisory Board.

The tragic and murderous events of September 11th will forever leave their mark on this great nation. The Armed Forces DNA Identification Laboratory (AFDIL) was forefront in the identification of the victims from the Pentagon/American Airlines Flight #77 and the United Airlines Flight #93 crash in Somerset, Pa. Scientists from AFDIL were deployed to Dover Port Mortuary, Del, and to the Somerset, Pa, site to assist in collecting suitable specimens for DNA analytical services. The AFDIL processed approximately 1,500 evidentiary specimens and greater than 400 reference specimens to support these investigations. The efforts of AFDIL and of multiple other agencies resulted in the identifications of all 44 individuals from UA Flight #93 and all but 5 of the 188 individuals missing from the Pentagon/AA Flight #77.

ARMED FORCES REPOSITORY OF SPECIMEN SAMPLES FOR THE IDENTIFICATION OF REMAINS (AFRSSIR)

In 2001, AFRSSIR accessioned 306,000 DNA reference specimens from 1,935 separate collection sites (Army-700, Air Force-312, Navy-449, Marine Corps-195, Coast Guard-84). The director of Repository Operations conducted collection site visits at 11 facilities to provide information briefings and evaluate collection compliance.

Accessioned DNA reference specimen inventory at the end of the year totaled 3,586,395. The military has collected specimens from about 90% of their current population. In 2001, the repository processed 7 donor requests for destruction of their DNA sample and 17 requests for release of specimens. The repository released 168 DNA specimens to AFDIL for human remains identification. Forty-nine of the DNA samples analyzed by AFDIL were for identification of victims of the Pentagon attack on September 11.

The director of Repository Operations was the lead OAFME representative to the United Airlines Flight #93 crash outside of Somerset, Pa, on September 11. A DNA collection station was integrated into the temporary mortuary established by the Disaster Mortuary Operational Response Team (DMORT). This was the first time DMORT members trained at AFDIL by AFDIL

staff participated in mass-fatality specimen collection. DNA team members processed more than 1,300 human remains fragments and collected over 500 DNA samples for typing by AFDIL.

A prototype DNA specimen donor card was fielded at two basic training collection facilities: Ft Leonard Wood, Mo, and Parris Island Marine Corps Recruiting Depot, SC. The new card will be used for approximately 3 years to collect approximately 100,000 samples on conventional untreated filter paper and chemically treated filter paper for laboratory evaluation.

The director of Repository Operations developed a DNA course lecture for criminal investigators that details basic DNA technology and its application to criminal casework. Two class presentations were made to Army CID agents attending the advanced forensics course at the Military Police School, Ft Leonard Wood, Mo.

DIAGNOSTIC CONSULTATIONS

<i>Cases</i>	<i>Completed</i>
Military	935
Army	(704)
Navy	(22)
Air Force.....	(209)
Federal	31
OFA	(31)
Civilian	306
Total	1272

DOD DNA REGISTRY

Conferences:

1. SWGDAM Meeting, Quantico, January 22-24, 2001, attended by D Lee, S Barritt
2. DPMO Family Update Las Vegas, NV, January 20-21, 2001, 2 presenting.
3. US State Department Medical Directors Visit, February 15, 2001.
4. AAFS 2001 Meeting, Seattle, Wash, February 19-24, 2001, 17 scientists attending, 11 presenting.
5. DPMO Family Update San Francisco, Calif, February 24-25, 2001, 2 presenting
6. VFW National Legislative Conference (POW Committee), Arlington, Va, February 26, 2001 BG Smith, JJ Canik.
7. US Department of State Annual CME Conference, Bethesda, Md March 9, 2001, D Lee, B Smith.
8. DPMO Family Update, San Antonio, Tex, March 17-18, 2001, 2 presenting.
9. Casualty Officers Conference, San Antonio, Tex, March 19-21, 2001, JJ Canik, S Carroll.
10. DPMO Family Update, Cheyenne, Wyo, April 21-22, 2001, 2 presenting
11. Ethics and Genomics Conference, Berkeley, Calif, April 25-29, 2001, S Barritt.
12. Mass Disaster Planning Meeting by Kenyon International, Houston, Tex, April 25-27, 2001, JJ Canik.
13. Mid-Atlantic Association of Forensic Scientists Joint Meeting, Williamsburg, Va
14. NE Regional Meeting of the National League of Families, Providence, RI, May 5-6, 2001, A Blanchard, Boyer.
15. 14th Annual Forensic Anthropology Course, AFIP and Smithsonian Institute, National Center for Forensic Science, Scientific Working Group for Mass Fatality Incident Planning, June 13-16, 2001, B Smith.
16. National League of Families, Arlington, Va, June 21-25, 2001, B Smith, JJ Canik.
17. Scientific Working Group on DNA Analytical Methods (SWGDAM), July 10-12, 2001, D Lee, S Barritt.
18. Korea/Cold War MIA Families Annual Meeting, Crystal City, July 27-28, 2001, B Smith, JJ Canik.

19. Defense POW/Missing Personnel Office (DPMO) Resources Strategic Planning Conference, July 27, 2001.
20. ABI 310 Genetic Analyzer Meeting, Baltimore, Md, August 29, 2001, CM Ernst.
21. The Second European-American Intensive Course in PCR based Clinical and Forensic Testing, Dubrovnik, Croatia, September 3-14, 2001, JJ Parsons, TD Anderson.
22. Casualty Officers Conference, Memphis, Tenn, November 13-15, 2001, JJ Canik, KS Carroll.
23. DPMO Family Update, Little Rock, Ark, November 16-17, 2001, 2 presenting.
24. USUHS, May 14-18, 2001, 2 attendees and 1 speaker.

Visitors:

1. US Army Criminal Investigations Command, Memorial Service for AK 261 Victims, Ventura, Calif, January 31, 2001, D Boyer, D Baker attending by invitation.
2. Deborah Nelson (Job Link) Visit, Alexandria, Va, February 13, 2001.
3. Dr. Bruce Jackson, Massachusetts Bay University, March 1, 2002 African Roots Project.
4. Mary Hong from the Orange County Crime Lab, Calif, March 28, 2001, California DOJ Crime Laboratory Scientists Visit (11), April 3, 2001.
5. FBI Investigative Team (*USS Cole*), April 9, 2001
6. INTERPOL DVI Visit, April 18, 2001.
7. MG Menzies (UK Surgeon General) Visit, April 19, 2001.
8. USAF Medical Center Medical Law Consultants Visit, April 20, 2001.
9. US-Russian Joint Commission Visit (DPMO), April 25, 2001.
10. Tri-Service Flight Surgeons Visit, May 3, 2001.
11. LtCol Tom Erstfield, PAO for DPMO, August 28, 2001.
12. Senior enlisted and civilian staff at Casualty and Memorial Affairs Operation Center, September 5, 2001.
13. LTG Carlton, USAF SG, September 10, 2001.
14. Col Fox, USMC, Deputy Commander, Joint Task Force Full Accounting, Camp Smith, Hawaii, September 19, 2001.
15. Bruce Broce and the Presidential Commission for Truth, Panama, September 27, 2001.
16. LTG Peake, US Army SG, October 15, 2001.
17. BG Spivey, Chaplin and CDR Yvette Brownwaller, October 23, 2001.
18. FBI and CODIS, October 1, 2001.
19. COL David Pagano (Cdr) and Mr. Johnie Webb (Deputy), US Army Central Identification Laboratory, July 30, 2001.
20. Senior Sergeant Peter Townsend, Fellow, Victoria Forensic Science Center, Myriad Laboratories, Inc, October 31, 2001.
21. BG Redmann, USAF, Commander, Joint Task Force Full Accounting, Camp Smith, Hawaii, November 5, 2001.
22. Mr. Jerry D. Jennings, (DASD-DPMO), November 21, 2001.
23. Russian POW/MIA Committee, December 13, 2001.
24. Gettysburg College, December 12, 2001.
25. Melbourne, Australia, August 1, 2001.

Audits/Inspections:

1. Proficiency Testing Organization, ISO 9001 Surveillance Audit, May 4, 2001.
2. DoD DNA Oversight Inspection, May 7-8, 2001.
3. College of American Pathologists, October 30, 2001.
4. AFIP Scientific Advisory Board, November 8-9, 2001.

Scientific Exchanges:

1. James Ross to CILHI, May 14-18, 2001.
2. Dr. Tom Holland and Dr. John Byrd from CILHI, May 14-15, 2001.

3. Suzanne Barritt to CILHI, December 8-12, 2001.

Faculty Positions/Speakers:

1. AFIP Forensic Dentistry Course, Faculty, March 27, 2001, B Smith.
2. George Washington University, T Anderson, Course Director, January to May 2001.
3. NTSB-DMORT DNA Training, June 7-8, 2001, D Lee, Boyer, JJ Canik.
4. AFIP Basic Forensic Pathology Course, November 12-16, 2001.
5. Dr. P. Wiley, Visiting Lecturer in Forensic Anthropology, "George Custer – the rest of the story," February 7, 2001
6. CJMAO Meeting at Hoffman Meeting, February 9, 2001, J Canik.
7. George Carmody, PhD, "Statistics and Forensic Casework," July 18-20, 2001.
8. Hal Deadman (FBI Consultant on Trace Evidence), Visiting Lecturer, April 5, 2001.

Consultations:

1. DPMO Mission to Saudi Arabia, February 16-20, 2001, B Smith.
2. Dr. T Parsons to the Institute of Forensic Medicine, Hanoi, August 1-15, 2001.
3. J Irwin and B Smith to the International Commission on Missing Persons, Sarajevo, BiH, Scientific Advisory Board, August 10-18, 2001.
4. B Smith to Celera DNA Forensic Advisory Board, Gaithersburg, Md, November 29, 2001.

PUBLICATIONS

Journal Articles

1. Ross J, Parson W, Furac I, Kubat H, Holland M. Multiplex PCR amplification of eight STR loci in Austrian and Croatian Caucasian populations. *Int J Legal Med.* 2001;115:57-60.
2. Gabriel MN, Huffine EF, Ryan JH, Holland MM, Parsons TJ. Improved MtDNA sequence analysis of forensic remains using a "mini-primer set" amplification strategy. *J Forensic Sci.* 2001;46:247-253.
3. Parsons TJ, Coble MD. Increasing the forensic discrimination of mitochondrial DNA testing through analysis of the entire mitochondrial DNA genome. *Croat Med J.* 2001;42:304-309.
4. Smith BC. Introduction to DNA analysis. *Dent Clin North Am.* 2001;45:229-235, vii.
5. Chinnery PF, Taylor GA, Brown DT, Howell N, Parsons TJ, Turnbull DM. Mitochondrial DNA control region point mutations in normal and neurodegenerative human brains. *Am J Human Genet.* 2001;68:529-532.
6. Chinnery PF, Jones S, Sviland L, Andrews RM, Parsons TJ, Turnbull DM, Bindoff L. Mitochondrial enteropathy: the primary pathology may not be within the gastrointestinal tract. *Gut.* 2001;48:121-124.

Abstracts

1. Barritt SM, Lee DA, Cariola ML, Smith BC, Temple RE. The use of deciduous teeth as an alternative reference source in DNA casework. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
2. Groover JC, Wadhams MJ, Holland MM, Smith DC, Le Roux M-G. An international study on the detection of mitochondrial sequence heteroplasmy. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
3. Jones SW, Lee DA, Veasey RC, Ross JP, Willard JM, Mallack CT, Smith BC. The utility of DNA identification methodologies as an investigative tool in aircraft disasters. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
4. Murga K, Cariola M, Lee DA, Willard JM, Smith BC. The role of DNA analysis in mass disasters. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
5. Parson TJ, Irwin JA, Byrd JE, Adams BJ, Nelson GA, Wadhams MJ, Anderson TD, Fasano MA, Barritt SM, Smith BC. Development of extraction methods to solve a unique challenge in mtDNA identification: the Korean War 'punchbowl' unknowns. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
6. Blanchard A, Anderson TA, Wilson RE, Rankin D, Grant WE, Temple, RE, Smith BC. Using

- science to better the quality of human life. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
7. Parsons TJ. DNA identification challenges: identifying US soldiers missing from the Korean War. Invited presentation, Second European-American Intensive Course in Clinical and Forensic Genetics; September 3-14, 2001; Dubrovnik, Croatia.
 8. Parsons TJ. Development in obtaining and handling mtDNA sequence data. Invited presentation, Second European-American Intensive Course in Clinical and Forensic Genetics; September 3-14 2001; Dubrovnik, Croatia.
 9. Parsons TJ. Increasing the power of mtDNA forensic testing by SNP assays over the entire mtDNA Genome. Invited presentation, Second European-American Intensive Course in Clinical and Forensic Genetics; September 3-14, 2001; Dubrovnik, Croatia.
 10. Parsons TJ, Coble MD. Increasing the power of mtDNA forensic testing by SNP assays over the entire mtDNA Genome. National Institute of Justice Second Annual DNA Grantee's Workshop; June 6-8 2001; Washington, DC.
 11. Irwin J, Ross JP. Automated statistical analyses of STR data and the identification of individuals from mass disasters via a custom windows-based application. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
 12. Irwin J, Lee DA, Willard JM. AFDIL stats: an automated program for profile comparison and statistical analysis of STR data in mass disaster applications. 12th International Symposium on Human Identification; October 9-12, 2001; Biloxi, Miss.



Aaron Jacobs, COL, MS, USA
Chief
Date of Appointment — 30 May 2000



DIVISION OF FORENSIC TOXICOLOGY

MISSION

The Division of Forensic Toxicology provides toxicology laboratory testing and consultation for medical examiner investigations, other DoD forensic cases, and the drug testing quality assurance program. It also provides education and research for DoD organizations worldwide for these areas of pathology.

ORGANIZATION

The division is organized into 6 branches and the Office of the Chief.

Postmortem/Human Performance Laboratory Branch – Eric T. Shimomura, PhD
DoD Drug Detection QA Laboratory Branch – Thomas Z. Bosy, LT, MSC, USN
Research and Education Branch – Kathryn S. Kalasinsky, PhD
Drug Testing Research Branch – Buddha Paul, PhD
Analytical Services Branch – Joseph Magluilo, Jr
Quality Assurance Branch – Jeffrey D’Nicuola, MSgt, USAF

STAFF

Scientific:

Aaron Jacobs, COL, MS, USA, Chief Deputy Medical Examiner, Forensic Toxicology
(A) John Jemionek, CAPT, MSC, USN, Special Projects Officer
Eric T. Shimomura, PhD, Chief, Postmortem/Human Performance Lab
(D) Karla A. Moore, LtCol, USAF, BSC, Chief Toxicologist, Forensic Toxicology Lab
(A) Thomas Z. Bosy, LT, MSC, USN, Chief, DoD Drug Detection QA Laboratory
(D) Kenneth A. Cole, LCDR, MSC, USN, Chief, DoD Drug Detection QA Laboratory
Kathryn S. Kalasinsky, PhD, Chief, Research and Education
Buddha D. Paul, PhD, Chief, Drug Testing Research
Joseph Magluilo, Jr, Chief, Analytical Services
(D) Virginia J. Makale, CDR, MSC, USN, Chief, Quality Assurance
Barry S. Levine, PhD, Toxicologist
Jason Sklerov, Senior Mass Spectroscopist
Robert O. Hughes, MS, QA Chemist
Robert L. Jones, Analytical Toxicologist
Joseph W. Addison, Analytical Toxicologist Technician
Marcie M. Dixon, Research Assistant
(D) Alison F. Grieshaber, Research Assistant
Karoline K. Shannon, Analytical Services Technician
(A) Adeyinka Babalola, Laboratory Technician
(A) Justin Holler, Laboratory Technician
William E. Mayo, Laboratory Technician
(D) Lucas Zarwell, Laboratory Technician
(A) James Arrington, SSG, USA, Laboratory Technician
Sherry L. Pluche, HM1, USN, Laboratory Technician
(A) Rhonda J. Martin, TSgt, USAF, Laboratory Technician
(D) Amy Nodine Sulog, HM1, USN, Laboratory Technician
(A) Kenesah Ferebee, SSgt, USAF, Laboratory Technician
(A) Emilda Greenidge-Blake, SSgt, USAF, Laboratory Technician

John D. Filburn, HM2, USN, Laboratory Technician
 (D) Gwendolyn D. Hodge, SGT, USA, Laboratory Technician
 (D) Brian M. Hower, HM2, USN, Laboratory Technician
 James E. Miller, HM2, USN, Laboratory Technician
 (A) Leah Milliman, HM2, USN, Laboratory Technician
 Gregory R. Shepard, SGT, USA, Laboratory Technician

Administrative:

Steve W. Hale, SMSgt, USAF, Superintendent, Division of Forensic Toxicology
 Jeffrey D'Nicuola, MSgt, USAF, Superintendent, DoD Drug Detection QA Laboratory
 Teresa M. Schaefer, Computer Specialist
 (A) Kim Wells, Administrative/Computer Specialist
 Jaqueline O. Jordan, Secretary

DIAGNOSTIC CONSULTATION

In 2001, the division completed 6,231 cases, with 6.7 calendar days average turnaround time.

Type of Case	Source of Case
Aircraft Incidents 1,716	USA 1,983
Air Fatalities 156	USAF 1,313
Criminal/Investigative 2,081	USN 740
Postmortem 346	USMC 58
Quality Controls 312	USCG 27
Surveys 103	DCME 1,517
DCME 1,517	Civilian/Other 593
TOTAL 6,231	TOTAL 6,231

Our division developed 5 new methods for toxicological analysis, as listed below:

1. Identification of new chemical markers that relate to simultaneous use of smoking cocaine and drinking alcohol
2. Detection of smoked cocaine, pyrolytic methylecgonidine, and 13 metabolites in urine
3. Detection of PMA/PMMA in urine, blood, tissue, and hair
4. Detection of D-9-tetrahydrocannabinol and metabolites in blood and saliva specimens by LC/MS and LC/MS-MS
5. Fast GC/MS methods for DoD drug testing program

Deployments:

1. January 5-20, 2001, Twentynine Palms, Calif, Expert Witness, A Grieshaber
2. March 20-22, 2001, Naval Air Station, North Island, San Diego, Calif, Arbitration, K Cole
3. April 3-4, 2001, Navy Legal Service Office, Norfolk, Va, Expert Witness, B Paul
4. April 16, 2001, Army Legal Office, Ft Hoode, Tex, Expert Witness, B Paul
5. April 18, 2001, USCG Arbitration, World Trade Center, NY, K Cole
6. April 29-May 3, 2001, Navy Legal Service Office, Norfolk, Va, Expert Witness, B Paul
7. May 8, 2001, Navy Legal Service Office, Norfolk, Va, Expert Witness, B Paul
8. June 12-14, 2001, Camp LeJune Arbitration Board, K Cole
9. October 10-12, 2001, McGuire AFB, NJ, Expert Witness, A Grieshaber

Local Military/Federal/Civilian Expert Testimony:

1. January 11, 2001, US District Court, K Moore
2. January 24, 2001, Prince George's County Circuit Court, B Levine
3. March 7, 2001, Anne Arundel County Circuit Court, B Levine
4. March 19, 2001, DC Superior Court, K Moore, B Levine
5. March 23, 2001, US District Court, B Levine
6. June 4, 2001, US District Court, B Levine

7. June 13, 2001, DC Superior Court, B Levine
8. August 10, 2001, US District Court, B Levine
9. August 20, 2001, US District Court, B Levine
10. November 2, 2001, US District Court, B Levine
11. December 7, 2001, US District Court, B Levine

National/International Consultations:

1. Naval Legal Service Office, Navy Yard, Washington, DC, B Paul
2. Naval Legal Service Office, Norfolk, Va, B Paul
3. Army Legal Service Office, Ft Hoode, Tex, B Paul
4. Navy Legal Service Office, San Diego, Calif, B Paul
5. Law office David Court, Frankfort, Germany, B Paul
6. Research Triangle Institute, RTP, NC, B Paul
7. Corning Clinical Laboratory, St Louis, Mo, B Paul
8. Army Drug Testing Laboratory, Tripler, Hawaii, B Paul
9. Air Force Drug Testing Laboratory, San Antonio, Tex, B Paul
10. Navy Environmental Health Center, Norfolk, Va, B Paul
11. OME-District of Columbia, Washington, DC, B Paul
12. Army Legal Office, Ft Carson, Colo, B Paul
13. Army Carlisle Barrack, Pa, B Paul
14. SMA, Judge Advocate Office, West Point, NY, B Paul
15. Minot Air Force Base, ND, B Paul
17. USCGC Hamilton, B Paul
18. NS Roosevelt Roads, NCIS, Puerto Rico, B Paul
19. Naval Air Station, New Orleans, La, B Paul
20. Keesler Air Force Base, La, B Paul
21. Elmendorf Air Force Base, Alaska, B Paul
22. Walter Reed AMC, Washington, DC, B Paul
23. Sheppard AFB, Tex, B Paul
24. Ft Buchanan, Puerto Rico, B Paul
25. Lackland AFB, Tex, B Paul
26. Kadena AB, Japan, B Paul
27. VA Hospital, Huntington, Wva, B Paul
28. Andrews AFB, Md, B Paul
29. Barkdale AFB, La, B Paul
30. Kirtland AFB, NM, B Paul
31. Wamac AMC, Ft Bragg, NC, B Paul
32. Naval Hospital, San Diego, Calif, B Paul
33. Ft Drum, NY, B Paul
34. Madigan AMC, Ft Lewis, Wash, B Paul
35. RAF Lakenheath, UK, B Paul
36. Office of the Secretary of Defense, Pentagon, Va, B Paul
37. US Coast Guard, Grand Haven, Mich, B Paul
38. NCIS HQ, Washington Navy Yard, DC, K Kalasinsky
39. Web MD Canada Medical News, K Kalasinsky
40. Chief Medical Examiner, San Jose, Calif, K Kalasinsky

Quality Assurance:

Inspection Teams:

1. January 22-25, 2001, Inspection, Air Force Drug Testing Lab, Brooks AFB, Tex, K Cole.

2. March 4-7, 2001, NDSL, San Diego, Navy Quality Assurance Assistance Team Inspection, K Cole
3. April 2-5, 2001, NDSL Great Lakes, Navy Quality Assurance Assistance Team Inspection, K Cole

Proficiency Exams:

1. Participated in 6 proficiency tests (AL-1, SO, UDC, UT, T, NHTSA: Blood Alcohol)
2. Performed in-house proficiency testing for psilocin and gamma-hydroxybutyrate
3. Ran the DoD drug testing open and blind proficiency program worldwide, producing a total of 19,770 QC specimens for 2001: 3,892 military open proficiency specimens, 14,976 military blind proficiency specimens, 677 civilian proficiency samples, and 225 special testing sets

Litigation Support:

Produced 4 Discovery Requests and 55 Litigation Packages for prosecution of drug and alcohol offenses

EDUCATION

Presentations and Seminars: Division staff made 12 presentations at scientific conferences in 2001. Dates and titles are listed at the end of this report.

Courses: Division staff participated in 5 non-AFIP courses in 2001, for a total of 88 man-hours of training. Continuing education seminars were given throughout the year by external and internal professionals for the scientific staff of the division. Staff members gave 13 lectures at courses organized and directed by AFIP or other agencies. Dates and titles are listed at the end of this report.

Trainees: The division provided toxicology training for internists and Army reservists. The division also supported training for toxicology internships for Naval Academy midshipmen and West Point cadets.

RESEARCH

Publications: The division published 11 articles in refereed journals. A complete list is included at the end of this report.

Projects: The division maintained 8 research projects in 2001, as listed below. Six official research protocols were open as of December 31, 2001.

1. Hemp Oil-Human Use
2. Hair Analysis for Drugs of Abuse
3. Drug Distribution in Brain of Autopsied Overdose Cases
4. Direct Sampling of Abused Drugs for GC/MS Analysis
5. IR Methods of Analysis for Drugs of Abuse
6. Detection of THC in Biological Matrices by LC-MS Techniques
7. Clinical Studies of Heroin Administered to Humans
8. Detection of Chemical Markers in Tissues after Smoking Cocaine

Research Funds Received: Three ARP research grants were in operation in the division for 2001.

1. "Direct Sampling of Abused Drugs for GC/MS Analysis" - \$10,000, K Kalasinsky
2. "Detection of LSD in Urine by Gas Chromatography/Ion Trap Mass Spectrometry Following a Novel Immunoaffinity Chromatography Technique" - \$16,000, K Kalasinsky
3. "Drugs in Hair by Synchrotron Infrared Microscopy" - \$10,000, K Kalasinsky

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. LCDR Lisa McWhorter, Navy Drug Screening Laboratory, San Diego, Calif, Detection of Pyrolytic Products of Cocaine in Urine
2. LTC Shippee, Army Drug Testing Laboratory, Ft Meade, Md, Clinical Studies of Heroin Administered to Humans
3. Dr. Marilyn Huestis, Addiction Research Center, NIDA, NIH, Baltimore, Md, Clinical

Studies of Heroin Administered to Humans

4. LCDR Rich Gustafson, Addiction Research Center, NIDA, NIH, Baltimore, Md, Clinical Studies of Hemp Oil Administered to Humans
5. All DoD Drug Testing Laboratories, Development of New Drug Testing Methods

Civilian:

Dr. Peter Griffiths, University of Idaho, Moscow, GC/LC/IR Methods of Analysis for Drugs of Abuse

International:

Dr. Stephen Kish, Clarke Institute of Psychiatry, Toronto, Canada, Drug Distribution in Brain of Autopsied Overdose Cases

Committees (Extramural):

Editorial Boards:

1. *Applied Spectroscopy Reviews*, K Kalasinsky
2. *Spectroscopy*, K Kalasinsky
3. *Spectrochimica Acta Part A: Molecular Spectroscopy*, K Kalasinsky

Manuscripts/Research Proposals Reviewed:

1. *Clinical Chemistry* (1), B Paul
2. *Applied Spectroscopy* (2), K Kalasinsky
3. *Spectrochimica Acta* (1), K Kalasinsky

Offices/Committee Memberships in National and International Societies:

1. Board of Managers, Coblenz Society, K Kalasinsky
2. Newsletter Editor, Coblenz Society, K Kalasinsky
3. Nominating Committee, Society for Applied Spectroscopy, K Kalasinsky
4. Program Committee, International Conference on Advanced Vibrational Spectroscopy, K Kalasinsky

National Panels:

1. NMLC (Navy Medical Logistics Command) Technical Evaluation Board, A Jacobs, K Cole, T Bosy, B Paul
2. DoD Biochemical Testing Advisory Committee, A Jacobs (Chair), K Cole, T Bosy
3. HHS Drug Testing Advisory Board Working Group, K Cole, T Bosy
4. National Drug Control Policy Working Study, K Cole, T Bosy
5. DoD Drug Testing Reagent Contract Technical Evaluation Board, K Cole, T Bosy
6. DoD Laboratory Certification Inspection Program, A Jacobs, K Cole, T Bosy, B Paul, J D'Nicuola
7. COR Inspection Service Contract, A Jacobs, K Cole, T Bosy, J D'Nicuola

Faculty Appointments:

University of Maryland at Baltimore, Department of Pathology, Clinical Associate Professor, B Levine

Continuing Education: The following courses were attended for training during 2001 by divisional staff, military and civilian:

1. The Agony of Ecstasy
2. Review of Forensic Toxicology
3. Combined Humanitarian Response Team (CHART) Course
4. Disaster Response Advanced Graphics Oriented Network (DRAGON) training, SBCOM Aberdeen PB-Edgewood area
5. HAZMAT 1st Responder Refresher Course, Aberdeen PG

Official Trips:

May 12-18, 2001, Table Top-Weapons of Mass Destruction Installation Preparedness Exercises, NS Yokosuka and NS Sasebo, Japan, K Cole

PRESENTATIONS

1. February 2001: Seattle, Wash, American Academy of Forensic Sciences Meeting, "The analysis of D-9-tetrahydrocannabinol (THC) and its active metabolite, 11-hydroxy-THC, in blood of liquid chromatography mass spectrometry," S Vorce, J Sklerov, B Levine, KA Moore.
2. March 2001: New Orleans, La, Pittsburgh Conference on Analytical Chemistry and Spectroscopy, "Illicit drug overdose cases: techniques and new biological matrices for examination," KS Kalasinsky, MM Dixon.
3. March 2001: New Orleans, La, Pittsburgh Conference on Analytical Chemistry and Spectroscopy, "Method for detection of cocaine, pyrolytic methylecgonidine, and six metabolites in urine specimens and their concentration profile," BD Paul, ET Shimomura.
4. May 2001: Germantown, Md, Agilent Analytical Instrument Expo and Conference, "The analysis of D-9-tetrahydrocannabinol and metabolites in blood specimens by LC/MS and LC/MS-MS," JH Sklerov.
5. May 2001: Germantown, Md, Agilent Analytical Instrument Expo and Conference, "Fast GC/MS methods for DoD drug testing program," KK Shannon.
6. June 2001: USUHS, Bethesda, Md, 15th Conference on Military Medicine, "Emerging threats in weapons of mass distruction," KA Cole.
7. June 2001: San Antonio, Tex, Tri-Service Drug Testing Laboratory Managers Meeting, "The analysis of D-9-tetrahydrocannabinol and metabolites in saliva specimens by LC/MS," JH Sklerov.
8. June 2001: San Antonio, Tex, Tri-Service Drug Testing Laboratory Managers Meeting, "Fast GC/MS methods for DoD drug testing program," KK Shannon.
9. August 2001: Prague, Czech Republic, International Association of Forensic Toxicologists, "Intraindividual and interindividual variations in urinary levels of endogenous GHB," MA LeBeau, WD Darwin, B Levine, MA Huestis.
10. August, 2001: Prague, Czech Republic, International Association of Forensic Toxicologists, "Postmortem examination of body fluids and tissues for the presence of smoked cocaine, pyrolytic methylecgonidine, and their metabolites by GC-MS-SIM method," ET Shimomura, BD Paul.
11. October 2001: New Orleans, La, Society of Forensic Toxicologists Meeting, "Does creatinine normalization decrease the variation in urinary levels of endogenous GHB?" MA LeBeau, WD Darwin, B Levine, R Christenson, MA Huestis.
12. October 2001: New Orleans, La, Society of Forensic Toxicologist Meeting, "Status of drug absorption in hair of chronic drug abusers from autopsy specimens," KS Kalasinsky, MM Dixon, SP Vorce, SJ Kish.

LECTURES

1. February 20, 2001: Seattle, Wash, AFS Workshop, "Fundamentals of toxicology," B Levine.
2. February 23, 2001: Washington, DC, Department of Transportation Substance Abuse Professional Training, "Laboratory processes," KA Cole.
3. February 28, 2001: Alexandria, Va, US Attorneys Eastern District of Virginia, "Pharmacology and forensic issues of ethanol," KA Moore.
4. March 15, 2001: Rockville, Md, Wootton High School Science Lecture Series, "Forensic investigations of hair and brain for abused drugs," KS Kalasinsky.
5. April 19, 2001: Providence, RI, University of Rhode Island Forensic Science Partnership Seminar Series, "Hair analysis," KS Kalasinsky.
6. April 26, 2001: AFIP, Division of Forensic Toxicology, "Postmortem changes in chemistry and toxicology," B Levine.
7. May 8-11, 2001: Maxwell AFB, Ala, Advanced Trial Advocacy Course, "Hair analysis," KS Kalasinsky.
8. May 9, 2001: Harvard Associates for Police Science, "Use of toxicological information in the final diagnosis," B Levine.
9. June 2001: San Antonio, Tex, Tri-Service Drug Testing Laboratory Managers Meeting, "Liquid chromatography mass spectrometry," JH Sklerov.
10. October 5, 2001: Harvard Associates for Police Science, "Use of toxicological information

in the final diagnosis," B Levine.

11. November 13, 2001: Chicago, Ill, Nicolet Research Symposium, "Infrared microscopy of human hair for the study of ingested drugs," KS Kalasinsky.
12. November 27, 2001: University of Maryland, TOXI 601, "Forensic toxicology I," B Levine.
13. November 29, 2001: University of Maryland, TOXI 601, "Forensic toxicology II," B Levine.

PUBLICATIONS

Journal Articles

1. Kalasinsky KS, Bosy TZ, Schmunk GA, Reiber G, Anthony RM, Furukawa Y, Guttman M, Kish SJ. Regional distribution of methamphetamine in autopsied brain of chronic human methamphetamine users. *Forensic Sci Int.* 2001;116:163-169.
2. Kish SJ, Kalasinsky KS, Derkach P, Schmunk GA, Guttman M, Ang L, Adams V, Furukawa Y, Haycock JW. Striatal dopaminergic and serotonergic markers in human heroine users. *Neuropsychopharmacology*, 2001;24:561-567.
3. Grieshaber AF, Moore KA, Levine B. The detection of psilocin in human urine. *J Forensic Sci.* 2001;46:627-630.
4. Kalasinsky KS, Dixon MM, Schmunk GA, Kish SJ. Blood, brain and hair GHB concentrations following fatal ingestion. *J Forensic Sci.* 2001;46:728-730.
5. Shimomura ET, Hodge GD, Paul BD. Examination of postmortem fluids and tissues for the presence of methylecgonidine, ecgonidine, cocaine, and benzoylecgonine using solid-phase extraction and gas-chromatography-mass spectrometry. *Clin Chem.* 2001;47:1040-1047.
6. LeBeau MA, Miller ML, Levine B. Effect of storage temperature on endogenous GHB levels in urine. *Forensic Sci Int.* 2001;119:161-167.
7. Kish SJ, Kalasinsky KS, Schmunk G, Furukawa Y, Guttman M, Ang L. Dopaminergic changes in human brain following acute exposure to gamma-hydroxybutyrate. *Neurology.* 2001;56:1602-1603.
8. Smith ML, Shimomura ET, Summers J, Paul BD, Jenkins AJ, Darwin WD, Cone EJ. Urinary excretion profiles for total morphine, free morphine, and 6-acetylmorphine following smoked and intravenous heroin. *J Anal Toxicol.* 2001;25:504-514.
9. Paul BD, Cole KA. Cathinone (Khat) and methcathinone (CAT) in urine specimens: a gas chromatography mass spectrometric detection procedure. *J Anal Toxicol.* 2001;25:525-530.
10. Moore KA, Sklerov J, Levine B, Jacobs AJ. Urine concentrations of ketamine and norketamine following illegal consumption. *J Anal Toxicol.* 2001;25:583-587.
11. Moore KA, Addison J, Levine B, Smialek JE. Applicability of opiate cutoffs to opiate intoxication cases [letter]. *J Anal Toxicol.* 2001;25:657-658.

Book Chapter

Isenschmid B, Levine B. Cocaine. In: Shaw LM, Kwong TC eds. *The Clinical Toxicology Laboratory, Contemporary Practice of Poisoning Evaluation*. Washington, DC: AACC Press; 2001:97-112.

GROUP 6

SPECIALIZED SERVICES

DEPARTMENT OF MEDICAL EDUCATION
(DME)

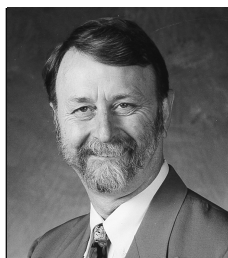
CENTER FOR SCIENTIFIC PUBLICATIONS

EPIDEMIOLOGY, REPOSITORY &
RESEARCH SERVICES

OFFICE OF QUALITY ASSURANCE

TELEMEDICINE





Christopher R. Owner, PhD
Chair
Date of Appointment — 4 August 1997



DEPARTMENT OF MEDICAL EDUCATION

MISSION

The Department of Medical Education supports continuing medical education in pathology, radiology, and related medical disciplines by providing specialized information and advanced research and technology in the study of the pathophysiology of disease.

ORGANIZATION

The department is organized by function and comprises workshop and seminar design and development, residents/fellows programs, text-based education, Web-based instruction, meeting planning, marketing, art and graphics, study sets, audiovisual, and accounting. The department chair reports to the CAP Director, Dr. Florabel G. Mullick. The Oversight Committee for Continuing Medical Education oversees the department's activities.

STAFF

Technical:

Christopher R. Owner, PhD, Chair
Ontee W. Biggs, CSMgt, USAF, Superintendent
Arnold Gittleson, Educational Coordinator (Radiology)
Carl Williams, Educational Coordinator (Radiology)
Carlos Moran, Educational Coordinator (International)
Manpreet Singh, Web Coordinator
James Eastep, DVM, World Wide Web Support
Earlene Turner, Educational Coordinator (Radiology)
(A) Ricky Giles, Educational Coordinator (Pathology)
Stephen W. Huntington, MSgt, USAF, Educational Coordinator (Pathology)
Virginia A. McMillan, Visual Information Specialist

Administrative:

Lisa P. Holmes, Meeting Management
Carolyn Tuchis, Accounts Manager
Kim L. Williams, Office Management
Rene Sutton, Marketing Coordinator

Other AFIP/ARP Staff in Support of Mission:

Frank Roberts, Histopathology QA
Estelle Page, Histopathology QA
Mark Sacks, CPR Program (AFIP Physicians and Staff)
Michele M. Block, Floor Administrator

Audiovisual:

Willie L. Jefferson, Jr, Audiovisual Supervisor
Joseph Frederick, Audiovisual Support Technician

Media Center:

Haydee Velazquez, Study Set Coordinator

Ash Library:

Ruth Li, Librarian

Prem Kalra, Library Consultant
Judith Paige, Library Technician
Daniel Mulholland, Library Technician

MIS Library:

Thomas Gaskins, Archive Technician

EDUCATIONAL DIVISION

Scope: The AFIP uses numerous approaches to determine how courses are structured and what information to include. First and foremost is the material we glean from our tertiary consult service. The AFIP receives over 55,000 cases annually, many of which are difficult diagnostic cases that become resources for our educational activities. This ongoing dialogue with the community of pathologists shapes the information selected for both our workshops and didactic programs to accurately reflect the informational needs of both the military and civilian physician. To augment these data, we also assess scientific advances in the field of pathology and medicine, seek the consensus of expert pathologists and clinicians, solicit feedback from both potential and actual attendees at our programs, and monitor the media to determine issues and topics of importance to the public. The effectiveness of these audience assessment activities can be seen in the evaluation data. The courses we offer cover most of the subspecialties in pathology, including dentistry, veterinary, forensics, and environmental medicine.

Audience: Our primary audience includes military and civilian pathologists, radiologists, and related subspecialty clinicians in the United States and Canada, and around the world. Secondary audiences include other physicians, health professionals, and interested ancillary medical support systems.

Activities: In 2001, the AFIP and ARP offered 79 programs and 1 virtual conference to 8,580 pathologists, clinicians, legal medicine professionals, veterinary pathologists, radiologists, dentists, forensic anthropologists, military and civilian residents, and professionals in related disciplines.

Marketing: The Marketing Department conducted marketing activities on behalf of 34 seminars and workshops, targeting anatomic and clinical pathologists and radiologists either in practice or serving in residencies. As part of this effort, we designed, produced, and mailed over 180,000 brochures and arranged for advertisements to appear in numerous journals, newsletters, and Web sites, including our own AFIP site, which provides detailed course information and the opportunity to register online. This year, approximately 26% (ranging from 13% to 46%) of our registrants applied through the Internet.

We are continuing to develop and promote our Medical Education Fund to help defray the cost of preparing syllabi, producing brochures, and marketing existing courses. The Jackson Foundation supports our efforts to raise funds in the commercial sector.

Web Education: The AFIP Web development team includes a Web coordinator (70% FTE), a veterinary pathologist (80%FTE), and a database expert (25%FTE). The second module in the virtual Genitourinary Course on Penile Lesions has been completed and will be disseminated in early spring. We are seeking an e-commerce company to support online charging for online courses. We also developed the second series of virtual conferences (9) for the Registry of Toxicologic Pathology in Animals (RTPA). We continued work on developing an electronic commerce application in support of our online registration activity. Approximately 26% of our 2001 course registrations were received from the Internet.

AUDIOVISUAL DIVISION

In 2001, the Audiovisual Division supported 34 Weekly Professional Staff Conferences, 28 CME courses, 2 Scientific Advisory Meetings, 6 Scientific Seminars, 9 Scientific Lab Lectures, and 6 Cellular Pathology Lab meetings, as well as the following activities:

- The Cross of Honor Ceremony for Dr James Henry, sponsored by the Federal Republic of Germany
- Washington Cancer Society Presentation
WRAMC Surgery Symposium
- Women's Health Issues Series
- The NMHM's Brain Awareness Week

- Howard Hughes Medical Institutes Live Satellite Transmission of the Clockwork Genes Lecture to Russell Auditorium

1. PROPERTY VALUE HR E5M

- a. \$380,870
- b. 122 items listed on the hand receipt

2. AUDIOVISUAL PROPOSED BUDGET

- a. Equipment (new and replacement) \$35,965
- b. Supplies \$800
- c. Maintenance \$3,000
- Total \$39,000

3. AUDIOVISUAL OPERATOR SUPPORT REQUEST

- a. In-House 601
- b. CME Courses 28
- c. WRAMC 31
- d. Outside Organizations 08

4. AUDIOVISUAL EQUIPMENT LOAN REQUESTS

- a. In-House 513
- b. CME Courses 28
- c. WRAMC34
- d. WRAIR 01
- e. Outside Organizations 08

5. AUDIOVISUAL EQUIPMENT ON INDEFINITE LOAN

- a. In-House 12
- b. WRAMC-TV 05

6. VIDEO RECORDINGS 12

MEDIA CENTER

In 2001, the Media Center began charging non-DoD physicians and libraries a fee for borrowing AFIP slide sets. We projected revenue of about \$12,000 to help offset some of the cost of maintaining this important DoD activity. For 2001, we actually recouped \$10,210. This year we began reviewing and remounting many of our slide sets in an attempt to maintain the highest quality possible.

1. PUBLIC SERVICES

- a. Sets used by AFIP personnel 60
- b. Circulation Patrons Loans
 - Checked In 65
 - Checked Out 61
- c. Interlibrary Loans
 - Federal 148
 - Nonfederal. 486
- d. Ready Reference
 - Media Center..... 430
 - Phone Calls 498

2. TECHNICALSERVICES**a. New Sets Acquired**

Veterinary Department 14

Histopathology QA Program 17

b. Catalogued Study Sets 31

Study sets sent to Histolab to be restained 155

Loans to civilians \$10,210

ASH LIBRARY

MISSION

In 2001, the Ash Library became a part of the Department of Medical Education. The Ash Library provides scientific and technical publications to Institute staff. Its collection includes more than 6,000 book titles, 444 printed journals, and 550 electronic journals.

ACCOMPLISHMENTS

Journals Evaluation: A list of seldom-used journals was evaluated by the library staff, library committee, and faculty; 90 journals, valued at \$49,945, were dropped, freeing up much needed space.

New Voyager Integrated System: Automation and implementation the Voyager system has been completed. Patrons are now able to search Web Voyager for books and journals, check-out books at our circulation desk, view check-in records, and visit WRAMC or WRAIR book collections.

Interlibrary Loan: The library now processes interlibrary loan requests through National Library of Medicine Docline; the turnaround time is usually 24 hours. National Library of Medicine (NLM) provides 1,000 articles per year, at no charge, to federal libraries, then a \$4.00 fee is accessed for each article. This year, Ash Library processed more than 1,000 requests from NLM. Due to budget restrictions, a limit of 5 requests per user was implemented until the end of year.

Tracking Journal Usage: An item barcode was assigned to each journal, which will allow for an accurate measure of usage.

New Proquest Online Database: After completing an in-depth study of online journal services, the Library Committee decided to subscribe to ProQuest Health Complete, instead of Ovid, reducing costs by more than half.

Cataloging: All cataloging data was transferred from DataTrek toVoyager.

DEPARTMENTAL ACTIVITIES

For the fourth year in a row, staff from the Department of Medical Education and the University of Southern California presented a day-long workshop at the Alliance for CME's Annual Meeting. Topics included Developing a Successful Web Team, Instructional Design for the WWW, and Technical Issues to Consider When Developing Web-Based Education. We also completed a pilot study examining whether attending courses increased or decreased the number of cases subsequently submitted for secondary consultation. Preliminary data suggest that subspecialty courses tend to see an increase both when the marketing activities begin and following the actual course. The more general courses showed no similar effect. An additional study is planned for 2002, to examine whether attendance at a CME activity impacts the type of cases submitted for consultation.

DEPARTMENTAL TRAINING STUDY

	<i>Federal Attendees</i>	<i>Non federal Attendees</i>	<i>International Attendees</i>	<i>Training Days Fed</i>	<i>Training Days Nonfed</i>	<i>Training Days International</i>	<i>Hours</i>
DNA Laboratory	0	0	0	0	0	0	0
Medical Examiners	0	2	9	0	146	0	1,168
Cardiovascular Path	0	2	1	0	21	251	1,632
Cellular Pathology	6	3	3	110	65	82	2,056
Center for Advanced Pathology	0	0	0	0	0	0	0
Dermatopathology	13	14	6	563	295	118	7,808
Environmental & Toxicologic Pathology	0	1	1	0	84	0	672
GU & Nephropathology Pathology	3	13	4	66	225	0	2,729
Gynecologic & Breast Pathology	7	7	63	145	85	18	1,984
Hematopathology	0	0	0	0	0	0	0
Hepatic & Gastrointestinal Pathology	5	15	6	76	331	338	5,960
Information Management	0	0	0	0	0	0	0
Infectious Diseases, AIDS & Microbiology	1	3	1	29	85	10	992
Legal Medicine	0	0	0	0	0	0	0
Medical Museum	0	0	0	0	0	0	0
Neuropathology & Ophthalmic Pathology	4	16	2	77	587	270	7,472
Oral Pathology	3	1	2	502	10	27	4,312
Orthopedic Pathology	0	2	1	0	42	22	512
Otolaryngic Pathology	0	14	2	0	225	7	2,360
Pediatric Pathology	0	2	1	0	43	23	528
Pulmonary & Mediastinal Pathology	0	8	6	0	181	566	5,976
Radiologic Pathology	0	2	1	0	43	250	2,344
Scientific Laboratories	0	0	1	0	0	254	2,032
Soft Tissue Pathology	0	5	2	20	106	271	3,016
Telepathology	2	3	1	18	88	19	1,000
Veterinary Pathology	0	14	9	0	170	103	2,184
Education	0	0	1	0	0	3	24
SUBTOTAL	44	127	62	1,586	2,832	2,629	56,761
TOTAL			233			7,047	56,376

LONG COURSES

	Federal Attendees	Non federal & International Attendees	Federal Training Days	Nonfederal & International Training Days	Hours
Anatomic Pathology	33	69	231	483	5,712
Basic Sciences ENT	14	9	196	126	2,576
Neuropathology	5	5	295	295	4,720
Neuropathology	1	8	52	416	3,744
Orthopedic Pathology	9	6	90	60	1,200
Radiologic Pathology	12	167	348	4,843	41,528
Radiologic Pathology	10	219	300	6,570	54,960
Radiologic Pathology	5	242	150	7,260	59,280
Radiologic Pathology	5	144	150	4,320	35,760
SUBTOTAL	94	869	1,821	24,373	
TOTAL		963		26,194	209,552

SHORT COURSES

	Federal Attendees	Nonfederal & International Attendees	Federal Training Days	Nonfederal & International Training Days	Hours
35 TH Annual Uro pathology Course	33	120	132	720	6,816
Uroradiology Review Course	32	63	64	126	1,520
16 TH Annual Neuroradiology Course	35	138	70	276	2,768
Thoracic Radiology	6	17	30	85	920
37 TH Annual Forensic Identification	42	3	210	330	540
(Dentistry) & Emerging Technologies					
39 TH Annual Neuropathology Review	21	124	105	620	5,800
Review & Update of Renal Biopsies	6	37	18	111	1,032
Thoracic Pathology with Clinical & Radiologic Correlations	6	54	24	216	1,920
Genitourinary Radiology	2	8	10	40	400
Gastrointestinal Radiology	6	14	30	70	800
14 TH Annual Forensic Anthropology	10	46	50	230	2,240
The Dermatopathology Workshop	26	96	52	192	1,952
7 TH Musculoskeletal Imaging Weekend	2	41	4	82	688
Urological Path Course – May 2001	16	141	96	846	7,536
Uroradiology Review Course	14	84	28	168	1,568
10 TH Descriptive Veterinary Pathology	6	66	30	330	2,880
Diagnostic Surgical Path (Italy)	2	252	8	1,008	8,128
Musculoskeletal Radiology	14	23	70	115	1,480
Neuroradiology	6	31	30	155	1,480
General Neuropathology	0	1	0	10	80
Development & Genetic Disorders	0	2	0	20	160
Tumors of the Central Nervous System	0	2	0	20	160
6 TH Current Clinical Laboratory Animal Science ..	15	79	30	158	376
4 TH Pathology of Laboratory Animals	29	121	116	484	4,800

GROUP 6—Specialized Services

Neurogenerative Diseases	0	1	0	10	80
Ophthalmic Pathology	22	92	132	552	5,472
Neuromuscular Diseases	0	4	0	40	320
Descriptive Veterinary Pathology (France)	0	40	0	160	1,280
30 TH Annual Orthopedic Pathology	29	44	174	264	3,504
Infectious Diseases of the CNS	0	2	0	20	80
3 RD Annual Soft Tissue Tumors	3	14	9	42	408
12 TH Annual GI Surgical Path & Endoscopic Biopsies of the GI Tract	21	92	42	184	1,808
22 ND Annual Hepatopathology: The Interpretation of Liver Biopsies	21	87	63	261	2,592
The Pap Smear	8	36	16	72	704
Basic Forensic Pathology	19	51	95	255	2,800
SUBTOTAL	441	2,089	1,738	8,272	80,080
TOTAL	2,530	10,010	80,080		

YEAR-ROUND TRAINING/EDUCATION

	Total Attendees	Days	Units	Hours
Legal Medicine Open File	2008	1,255	5	10,040
RTPA Web Conference	468	2,106	36	16,848
Weekly Professional Staff Conference	1,726	132	1	1,726
Histopathology Quality Assessment Program	590	1,253	17	10,030
Virtual Gastrointestinal Endoscopic Biopsy	6	7.5	10	60
CPR Recertification Program	36	5	3	108
Callender-Binford	20	2,716	8	21,728
TOTAL	4,854	7,475	80	60,540
GRAND TOTALS	8,580	50,726	406,548	



Leslie H. Sobin, MD, SES

Director

Date of Appointment — 20 September 1987



CENTER FOR SCIENTIFIC PUBLICATIONS

MISSION

The Center for Scientific Publications supports the research and educational aspects of the Institute's mission. Center staff:

- Oversee editorial and publishing matters for the entire Institute, review proposals for AFIP-generated publications, provide editorial review of manuscripts, oversee the processing and transmitting of manuscripts to publishers, maintain the Institute's publications records and archives, and collect and distribute reprints of AFIP publications.
- Edit, design, and produce for publication the *Annual Report*, the *Annual Research Progress Report*, the Institute's nonserial publications, the *AFIP LETTER*, informational brochures, catalogues, and a variety of institutional documents using desktop electronic publishing.
- Coedit the *AFIP Atlas of Tumor Pathology* and prepare 4-color separation films and black-and-white halftone films for the *Atlas* and the Institute's nonserial publications, generating digitized images for archiving and reproduction.
- Design, coordinate, and produce CD-ROMs of Institute publications, and provide user support via a toll-free line, e-mail, and the Electronic Fascicle Home Page on the World Wide Web (<http://www.afip.org/ef/ef.html>).
- Promote the development of standardized diagnostic nomenclatures and classifications of the World Health Organization (WHO) and the International Union Against Cancer (UICC), coordinate the revision of the WHO's *International Histological Classification of Tumors* and the UICC's *TNM Classification*, and oversee publication of the revised editions.

ORGANIZATION

The center is organized into 4 subdivisions and the Office of the Director:

- Editorial
- Publications Preparation
- Photographic Scanning
- CD-ROM Production

The director chairs the AFIP Editorial Committee. The WHO Collaborating Center for International Histological Classification of Tumors is under the Office of the Director.

STAFF

Leslie H. Sobin, MD, Director

Frances W. Card, Visual Information Specialist

Bonnie L. Casey, Scientific Editor, ARP

(A) S. Monique Craig, Scanning Assistant/Administrative Assistant, ARP

James C. Eastep, DVM, MS, Computer Aided Instruction Consultant, ARP

(D) Ricky H. Giles, Administrative Assistant, ARP

JoAnn P. Mills, Senior Technical Writer-Editor

Junko Monroe, Multimedia Production Technician, ARP

Linda A. Murakata, CDR, MC, USNR, Associate Editor

(A) Michele Richman, Multimedia Production Technician, ARP
Kenneth Stringfellow, Scanning Technician

AFIP EDITORIAL COMMITTEE

Jeffrey Cossman, MD
Kamal G. Ishak, MD, PhD
Adrianne Noe, PhD
Florabel G. Mullick, MD
Leslie H. Sobin, MD

ACTIVITIES

During 2001, more noteworthy activities of the center included:

1. Publication of 3 new AFIP *Atlases of Tumor Pathology* (third series):
No. 29, Jaws
No. 30, Soft Tissues
No. 31, Liver and Intrahepatic Bile Ducts
2. Publication of a CD-ROM version of the AFIP tumor atlas Peripheral Nervous System
3. World Wide Web-based publication of 2 AFIP tumor 3rd series atlases: esophagus and stomach; pituitary gland
4. Publication of a new issue of the World Health Organization Classification of Tumors series, Pathology and Genetics of Tumors: Hematopoietic and Lymphoid Tissues

Dr. Sobin participated in the annual meeting on the TNM project of the International Union Against Cancer (Geneva), of which he is chair. He served as a consultant to the International Agency for Research on Cancer (Lyon) for the preparation of the new WHO series on pathology and genetics of tumors of the breast and female genital system, bone, and soft tissues. Dr. Sobin participated in meetings of the editorial board of the *Atlas of Tumor Pathology*, of which he is associate editor.

2001 AFIP PUBLICATIONS (LIST ON PAGE 352)

Professional journals	310
Books and chapters	44
Abstracts	165
Other publications	45
Manuscripts processed	420
Reprint requests processed	9,770
Books sold (Atlas and nonseries)	56,940
CD-ROMs sold (Atlas)	1,057

Impact:

The center produced a number of important publications, in both print and electronic form, during 2001:

- 3 new fascicles of the Atlas of Tumor Pathology
- 2 Web-based and one CD-ROM-based tumor atlases
- a new WHO tumor classification

The worldwide distribution of these publications has great impact on the Institute's reputation as a major international source of authoritative information, standardized classifications, and nomenclature. The outstanding quality of illustrations, the hallmark of AFIP publications, has drawn continued praise in scientific journal reviews.

The Institute's WHO Collaborating Center for International Histological Classification of Tumors is working with the International Agency for Research on Cancer to develop the new World Health Organization Classification of Tumors series: Pathology and Genetics of Tumors.

Close collaboration continues with the International Union Against Cancer on tumor classification and staging (TNM system) and the interaction of staging with nonanatomic prognostic factors.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

National Cancer Institute/NIH, Surveillance, Epidemiology, End Results (SEER) Program, International Classification of Diseases for Oncology

International:

1. World Health Organization, International Histological Classification of Tumors
2. World Health Organization, International Classification of Diseases for Oncology (ICD-O)
3. International Agency for Research on Cancer, WHO Histological Classification of Tumors; Pathology and Genetics of Tumors
4. International Union Against Cancer, TNM/Prognostic Factors Classification and Cancer Staging

Committees:

AFIP Institutional Review Board Committee, F. Card

Offices and Committee Membership in National and International Organizations:

LH Sobin

1. Chair, TNM/Prognostic Factors Project of the International Union Against Cancer
2. Head, WHO Collaborating Center for International Histological Classification of Tumors
3. Editor, International Histological Classification of Tumors
4. Member, WHO Expert Advisory Panel on Cancer
5. Consultant, American Joint Committee on Cancer
6. Series Coeditor, WHO Classification of Tumors: Pathology and Genetics of Tumors

Editorships:

LH Sobin

1. Associate Editor, AFIP Atlas of Tumor Pathology, 3rd Series
2. Associate Editor, AFIP Atlas of Tumor Pathology, 4th Series
3. Associate Editor, AFIP/ARP Atlas of Non-neoplastic Diseases

Official Trips (funding agency in parentheses):

1. January 6, 2001, Phoenix, Ariz, American Joint Committee on Cancer, executive committee meeting –LH Sobin (AJCC)
2. February 28, 2001, London, England, International Association for the Study of Lung Tumors, classification meeting-- LH Sobin (UICC)
3. April 30-May 4, 2001, Geneva, Switzerland, TNM Project Meeting, International Union Against Cancer (UICC) — LH Sobin (UICC)
4. August 17, 2001, Boston, Mass, WHO Pathology and Genetics of Bone and Soft Tissue Tumors planning meeting — LH Sobin (WHO)

BOOKS PUBLISHED BY AFIP AND ARP

1. Sciubba JJ, Fantasia JE, Kahn LB. *Tumors and Cysts of the Jaws*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 29, Atlas of Tumor of Pathology.
2. Kempson RL, Fletcher CDM, Evans HL, Hendrickson MR, Sibley RK. *Tumors of the Soft Tissues*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 30, Atlas of Tumor of Pathology.
3. Ishak KG, Goodman ZD, Stocker JT. *Tumors of the Liver and Intrahepatic Bile Ducts*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 31, Atlas of Tumor of Pathology.

CD-ROM PUBLISHED BY AFIP AND ARP

Scheitauer B, Woodruff J, Erlandson R. *Tumors of the Peripheral Nervous System* [book on CD-ROM]. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 24, Atlas of Tumor Pathology.

WEB-BASED PUBLICATIONS BY AFIP AND ARP

1. Lewin KJ, Appleman HD. *Tumors of the Esophagus and Stomach*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 1998. Series 3, Fascicle 18, of the Atlas of Tumor Pathology.
2. Asa SL. *Tumors of the Pituitary Gland*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2000. Series 3, Fascicle 22, Atlas of Tumor Pathology.

WHO PUBLICATIONS

Jaffe E, Harris NL, Stein H, Vardiman JW, eds. *World Health Organization Classification of Tumours: Pathology and Genetics of Tumours of the Hematopoietic and Lymphoid Tissues*. Lyon, France: IARC Press; 2001.

OTHER PUBLICATIONS

Anderson A, Mills JP, Card FW, eds. *Armed Forces Institute of Pathology Annual Research Progress Report 2000*. Washington DC: Armed Forces Institute of Pathology; 2001.

Squazzo K, Card F, Oetjen-Gerdes L, Casey B, Stringfellow K. ARP/AFIP 2002 Calendar. Washington, DC: American Registry of Pathology; 2001.



Francis Gannon, MD
Chair
Date of Appointment — 1 November 2001

Annette R. Anderson, MS, RHIA
Administrator
Date of Appointment — 14 November 1994



DEPARTMENT OF REPOSITORY AND RESEARCH SERVICES

MISSION

The Department of Repository and Research Services provides administrative support to the Center for Advanced Pathology in achieving the Institute's objectives in consultation, education, and research. We do this by:

1. Maintaining the AFIP Repository, consisting of over 2.7 million case files and associated paraffin blocks, microscopic glass slides, and formalin-fixed tissue specimens.
2. Receiving and accessioning case materials.
3. Providing a case pick-up and delivery service throughout the Institute.
4. Responding to outside requests for release of medical information and pathologic materials.
5. Coding and entering pathologic diagnoses and case demographic data into the Institute's research database.
6. Performing administrative quality review of case files following final report.
7. Obtaining patient follow-up information for clinicopathologic correlation studies.
8. Conducting periodic quality assurance audits to ensure case record completeness, the integrity of the research database, and the accurate tracking of case materials.
9. Coordinating research protocol administrative requirements including review, approval, and monitoring of research activities by the various Institute research-related committees.
10. Publishing the Institute Annual Research Progress Report; periodically updating other research-related publications; and preparing reports as required for outside monitoring agencies.
11. Maintaining a repository of pathologic materials from closed military medical facilities, in accordance with applicable DoD regulations and federal statutes.
12. Serving as Institute coordinator for the Partnership Program with Rock Terrace High School, Rockville, Md.
13. Providing budgetary monitoring and policy guidance for the DoD Automated Central Tumor Registry (ACTUR).

ORGANIZATION

The department is organized into 5 divisions:

1. Receiving and Accessions
2. Records Repository
3. Materials Repository
4. Research Services Division
5. Case Materials Accountability Division

OFFICE OF THE CHAIR

Dr. Francis Gannon was appointed as the new department chair, effective November 1, 2001, replacing Dr. Michael Peterson, who accepted a position with the TriCare Management Agency.

Dr. Gannon had previously served as chair of the Case Re-engineering Committee within the Institute, and is therefore well-versed in departmental functions and requirements. Dr. Gannon is also a credentialed pathologist within the Department of Orthopedic Pathology. All data pertaining to his consultative, educational, and research efforts during 2001 are being reported with that department's annual report submission.

Upon assuming the position of department chair, Dr. Gannon created a new administrative assistant position through the American Registry of Pathology, to provide needed logistical support to the department. Additionally, Dr. Gannon began implementing the case-process-re-engineering model, as approved by the Case Re-engineering Committee.

The Institute's long-standing relationship with Rock Terrace High School continued in 2001. Approximately 15 students worked at the Institute as volunteer student aides, paid part-time workers, and summer hires. Most of the students worked in the Materials Repository Division, the Receiving and Accessions Division, and the Records Repository Division. The students continued their labor-intensive project of inventorying the case folders within the Records Repository and updating the PIMS locator system with the information. They also assisted in grouping returned slides for acknowledgement and filing. This year, the students also worked on a special project involving the repackaging and filing, in the Repository, of a large series of electron microscopy photographs that had been maintained by the Division of Nephropathology.

RESEARCH SERVICES DIVISION

MISSION

The Research Services Division supports the mission of the AFIP through the following activities:

1. Reviewing and processing protocols and educational projects submitted by AFIP staff for approval and funding.
2. Ensuring protocol administrative requirements are met and maintaining official protocol files.
3. Coordinating activities of the AFIP Research Committee, Institutional Review Board (IRB), Biosafety Committee, and Institutional Animal Care and Use Committee (IACUC).
4. Performing annual protocol reviews, conducting semiannual laboratory animal facility inspections, publishing meeting minutes, preparing committee action documents and notices to investigators, and preparing required reports for various accrediting and oversight organizations.
5. Monitoring the status of conditionally approved projects and publishing a monthly status report of all active protocols within the Institute.
6. Coordinating publication of the AFIP Annual Research Progress Report and the Institute's Annual Report to Congress on Laboratory Animal Care and Use.

STAFF

Annette R. Anderson, MS, RHIA , Associate Chair
Chonte' Long, Secretary

ACTIVITIES

In 2001, the Research Program included 293 in-house projects, extramural grants, research contracts, and agreements, a slight decrease from the 312 in 2000. At the end of 2001, there were a total of 43 active educational projects, a slight increase over last year's total of 40. Following are reports from each research-related committee:

Institutional Animal Care and Use Committee (IACUC): The committee met 10 times in 2001; reviewed 15 new protocols requesting the use of laboratory animals, as well as 7 major

amendments to existing protocols; and conducted one 3-year review. This was a significant increase in workload over the previous year, in which only 9 new protocols were reviewed. A number of minor amendments were approved throughout the year by the IACUC chair and the chief, DLAM. Semiannual inspections of the laboratory animal facilities were conducted in April and October. In June 2001, the Institute was surveyed by the Association for the Accreditation and Assessment of Laboratory Animal Care (AAALAC) International. The Institute received confirmation in November 2001 it had received continued full accreditation of its laboratory animal facilities.

Institutional Review Board (IRB): The board met 10 times in 2001; granted 33 requests to extend educational project approvals for an additional year; and approved 13 new educational project efforts. It reviewed and approved 24 protocols under the expedited review process, and reviewed and approved 25 protocols at full committee meetings. A total of 6 exemptions from IRB review were granted by the IRB chair. The board conducted 98 annual reviews using expedited review procedures, and performed full committee reviews of 22 protocol annual reports. In 2001, the board instituted a policy requiring resubmission of updated protocols for approval for all protocols over 10 years of age, at the time of their annual review. The board also applied for, and received, a Federal Wide Assurance (FWA) from the new Office of Human Research Protections (OHRP) of NIH. All board members completed the recommended training provided by OHRP.

Biosafety Committee: The committee met 3 times in 2001; continued its review of work practices within the BL-3 suite; and began to review and approve submitted BL-3 SOPs. The committee also discussed the appropriate personal protective equipment to be used in the suites, and reviewed and approved the new AFIP Occupational Health Regulation establishing a central monitoring system for all personnel—military, government civilian, ARP, or other contractors—required to undergo environmental and/or occupational health screening and monitoring. During the year, the committee reviewed and approved 4 protocols that involved the use of biohazardous agents. The committee also reviewed the plans for the shutdown and renovation of the BL-3 suites and the planned renovation and upgrade of the old BL-3 suites in the South Wing.

Research Committee: The committee met 4 times in 2001; reviewed and approved 55 new protocols under expedited review and approval procedures; and conducted formal committee reviews of 27 protocols.

The Research Services Division spent much of the year in temporary quarters while their old offices were being renovated. Personnel returned to these offices in August 2001.

A major project was initiated at the end of the calendar year—the establishment of a Sponsored Program Office. This office will track all protocols and grants through the approval process and assist investigators in meeting all submission requirements. A new research protocol approval routing process was proposed, and is currently awaiting review by the Executive Committee.

OFFICIAL TRIPS:

1. April 2001, National Association for Biomedical Research (NABR) Annual Meeting, Washington, DC.
2. May 2001, DoD Automated Central Tumor Registry (ACUTUR) Annual Training Conference, Orlando, Florida.
3. May 2001, Annual Meeting of the International Society for Biologic and Environmental Repositories (ISBER), Atlanta, Georgia.



Myra A. Moxley
Chief
Date of Appointment—12 October 1993



Michelle Block
Chief
Date of Appointment—1 December 2001



RECEIVING AND ACCESSIONS DIVISION

MISSION

The Receiving and Accessions Division is responsible for the receipt and accessioning of all pathology cases submitted for consultation, education, and research from the Department of Defense and other federal agencies, including the Department of Veterans Affairs, and from civilian pathologists from all over the United States and the world. The division is also responsible for running a messenger service that picks up and delivers pathologic case materials throughout the Institute at least 4 times each day. In addition, the division receives and processes all express and courier mail.

STAFF

SGT William Relle — Supervisor, Accessions
Rosetta Jackson — Senior Technical Consultant
Gloria Countiss — Lead Medical Records Technician
Norma Garey — Lead Medical Records Technician
Delorise Harvey — Lead Medical Records Technician
Luke Howell — Lead Medical Records Technician
Adrian Bingham — Medical Records Technician
Geraldine Key-Lovett — Medical Records Technician
Irene Ford — Medical Records Technician
Velda Jones — Medical Records Technician
Constance Balthrop — Medical Records Technician
Juanita Howard — Medical Records Technician
Travis Jones — Medical Records Technician
Kenny Melton — Medical Records Technician
Andrienne Newton — Medical Records Technician
Raymond Riley — Medical Records Technician
Kenneth Millner — Medical Records Technician
Janice Robinson — Medical Records Technician
Diane Turner — Medical Records Technician
Stephen Banda — Accessions Clerk
Joel Ryerson — Accessions Clerk
Aaron Askew — Messenger
Terry Best — Messenger
Ronald Reese — Messenger
Anna Semiah — Student Aide

ACTIVITIES

The division's workload statistics for 2001, compared to 2000, are as follows:

<i>Workload Factor</i>	<i>2000</i>	<i>2001</i>
Cases Accessioned	57,544	55,991
Federal Accessions	32,004	32,866
Civilian Accessions	25,540	23,125

During 2001, many of the recommendations presented in the Case Management Re-engineering Team's 2000 study detailing a new active-case processing model, were implemented. One of the most significant was the Case Triage Service, which was instituted to open all express

packages as soon as possible. It drew on personnel in the Receiving and Accessions Division, the Records Repository, and the Materials Repository. The concept proved so successful that the service was merged with the Case Delivery Service and given space next to the loading dock. Additionally, an automated package-receipt tracking system was implemented using bar codes to scan in all express mail received, decreasing substantially the amount of time spent in accurately accounting for all express deliveries. To complement this system, a handheld bar code scanning system was also implemented to track the delivery of accessioned cases from the Receiving and Accessions Division to the pathology departments.

As a result of these changes, the AFIP Contributor's Manual and all pertinent Receiving and Accessions Division SOPs were revised and published, in preparation for the College of American Pathologists accreditation survey. No discrepancies were identified in the case receiving and accessioning function during this survey.

In October 2001, the Receiving and Accessions Division was adversely impacted by the anthrax incidents. The delivery of mail ceased for several days, resulting in significant case-processing backlogs. Personnel were trained in appropriate mail-handling procedures, and several suspicious packages were identified and processed accordingly. Voluntary overtime quickly eliminated the backlogs. All personnel were evaluated for potential exposures and given the option of taking antibiotics as a precautionary measure. Mail delivered through the US Postal Service was the most seriously affected, often delayed several months. The irradiation process occasionally resulted in the receipt of melted paraffin blocks, damaged microscopic glass slides, and burned, brittle paperwork.



Mercedes E. Russell

Chief

Date of Appointment—2 October 1995

RECORDS REPOSITORY DIVISION



ACTIVITIES

The Records Repository Division is organized into 2 branches.

1. Record Archives Branch/Medical Information Release Office:

- Receives, stores, maintains, and retrieves all forms (microfiche, optical disk, paper) of pathologic case files.
- Scans selected pathologic case files into an optical disk imaging system.
- Retrieves previously accessioned case folders in response to the accessioning of a new case sequence on the same patient.
- Returns original x-rays to contributors.
- Processes all requests for release of information from the pathologic case files.
- Processes all requests for loan or return of submitted pathologic materials (slides, paraffin blocks, or wet tissue specimens).
- Tracks submissions of all Department of Veterans Affairs claims cases.

2. Pathology Data Branch:

- Abstracts, codes, and classifies final diagnoses of accessioned cases according to SNOMED International.
- Retrieves demographic and diagnostic data from the research database to assist Institute staff members in their research and teaching endeavors.
- Obtains patient follow-up information in support of approved clinicopathologic

correlation or descriptive pathology studies.

- Contacts contributing pathologists, hospitals, tumor registrars, patients, military records centers, and clinicians to obtain complete information.
- Prepares search requests to forward to the National Death Index (NDI), to include NDI Plus, at the request of investigators.

RECORD ARCHIVES BRANCH/MEDICAL INFORMATION RELEASE OFFICE

STAFF

Louise Matthews — Lead Medical Records Technician
 Eva D. Duncan — Medical Information Release Specialist
 Shirley Fields — Medical Records Technician
 Tiloría Brooks-White — Medical Records Technician
 Lenora Vaughn — Medical Records Technician
 Pamela Poteat — Medical Records Technician
 Serita Hewitt — Scanning Technician (ARP)
 Glenda Taylor — Scanning Technician (ARP)
 Sharon Verner — Scanning Technician (ARP)
 Jacquelyn Bailey — Scanning Technician (ARP)
 Ronald Singleterry — Scanning Supervisor (ARP)
 Virginia Walker — Student Aide

ACTIVITIES

The division's workload statistics for calendar year 2001, as compared to 2000, are as follows:

<i>Workload Factor</i>	<i>2000</i>	<i>2001</i>
Folder/Materials Actions Received	52,294	102,646
Retrieval/Sent Actions	5,935	15,173
Information Release Requests	1,477	1,627

In 2001, a decision was made, due to lack of adequate funding, to no longer support the Pathology Data Storage and Retrieval System (PADSTARS). Scanning activities were significantly reduced and eventually eliminated, although a portion of previously scanned data is still available for access through the system. Scanning personnel began cross-training in case triage functions, as well as case accessioning, records retrieval, and filing. The large increase in the number of case folders received for filing this year was due, in part, to the completion of the departmental case inventories, which resulted in a large number of records being returned by many departments. Our Rock Terrace students continued to inventory older records on file in the repository and upload the folder location in PIMS.

With the cessation of scanning activities and the large number of case folders being returned to the Repository, lack of storage space is becoming a significant concern. Records Repository personnel are forwarding a series of older records that have not been scanned to Forest Glen for storage, significantly increasing the time involved in retrieving these cases.

PATHOLOGY DATA BRANCH

STAFF

Toni Dickens — Lead Medical Records Technician
 Janice Powell — Medical Records Technician
 Terry Lloyd — Medical Records Technician
 Tammie Miles — Medical Records Technician
 Jacqueline Pinnix — Medical Records Technician
 Celeste Brannon — Medical Records Technician
 Frances Wise — Medical Records Technician
 Andre Thornton — Data Quality Technician

ACTIVITIES

The Pathology Data Branch's workload for 2001, compared with that of 2000, is as follows:

<i>Workload Factor</i>	<i>2000</i>	<i>2001</i>
Cases Uploaded	85,365	75,138
Data Retrievals	397	331
Studies in Follow-up	4	3

During 2001, Pathology Data Branch personnel, through the judicious use of overtime, virtually eliminated the backlog of coding that accumulated during the PACAMS crash in 1999 and as a result of the large influx of uncoded records in 2000.

Pathology Data Branch personnel also spent a significant amount of time cross-training and performing case triage services during 2001.



Kenneth A. Rawley
Chief
Date of Appointment—11 April 1982



MATERIALS REPOSITORY DIVISION

MISSION

The Materials Repository Division processes, stores, and retrieves accessioned formalin-fixed tissue, microscopic glass slides, and paraffin blocks in support of the Institute's consultation, education, and research missions. In addition, a tissue-grossing laboratory is maintained for use by Institute staff. The division also maintains a repository of pathologic materials and reports from closed military medical facilities. The division maintains a storage area within Building 54, the AFIP main building, along with the central grossing laboratory. In addition, it maintains two 15,000-sq ft warehouses located at the Forest Glenn Annex in Silver Spring, Maryland.

STAFF

Richard James — NCOIC, Materials Repository
Alfonzo Riddick — Materials Handler Warehouse Supervisor
Gregory Corbin — Materials Handler Work Leader
Thelma P. Best — Materials Handler
Ronald L. Duell — Materials Handler
Wayne Hamilton — Materials Handler
Woodrow Williams — Materials Handler
Willie Lovett — Materials Handler
Della M. Owens — Materials Handler
Larry Middleton — Materials Handler

James C. Stinney — Materials Handler
Audrey E. Tinker — Materials Handler
Marvin L. Alston — Materials Handler/Driver
Jennifer Johnson — Materials Handler
Kendrick Summers — Materials Handler
John McClenny — Materials Handler
Douglas Underwood — Materials Handler
Leroy Edmunds — Materials Handler
Ronnie Payne — Materials Handler
Tryone Connie — Materials Handler
Brian Salewski — Materials Handler Clerk
Antonio Eveline — Materials Handler Clerk
Justin Sicard — Materials Handler Clerk

ACTIVITIES

The division’s workload statistics for 2001, as compared to 2000 are as follows:

ACTIVITIES

The division’s workload statistics for 2001, as compared to 2000 are as follows:

<i>Workload Factor</i>	<i>2000</i>	<i>2001</i>
Cases received for file	80,273	112,034
Actual materials received	682,938	959,843
Cases forwarded	7,765	15,025
Actual materials forwarded	92,260	165,430

The chief, Materials Repository Division, was on extended medical leave during the first half of 2001, and the Warehouse supervisor ably handled the duties of this position. In addition, many Materials Repository personnel cross-trained in case triage functions.

A large amount of material was returned to the repositories during 2001, as a result of departmental inventories. The receipt of large volumes of material at once occasionally caused backlogs in the acknowledgement and filing of these materials. However, by the end of the year, the division had basically caught up, and no significant backlogs existed of current incoming case materials. There were some backlogs in the acknowledgement and filing of large study sets turned in by the pathology departments because room had to be created within the repository to interfile these older cases.

During 2001, space utilization at the Forest Glen warehouses was studied and a plan developed to replace aging equipment. Due to the cessation of scanning activities, more space is being devoted to the archiving of original accession folders that can no longer be stored in the main building. Additionally, space was allocated to temporarily store specimens for the Walter Reed Pathology Laboratory, which is undergoing renovation.

A major initiative is underway to perform a study of the BRAC material, from 23 closed or down-sized military medical facilities, and to propose a plan for its disposition or future use in research and educational efforts.



Myra Moxley
Chief

Date of Appointment—1 December 2001



CASE MATERIALS ACCOUNTABILITY DIVISION

MISSION

1. Support the pathology departments in ensuring timely and accurate processing of case materials to and from the repositories and the Receiving and Accessions Division.
2. Assist the pathology departments in the return of blocks to contributors.
3. Assist the pathology departments in conducting inventories of case materials and in updating the PIMS locator information.
4. Conduct periodic audits of materials as requested by the AFIP records custodian, to include conducting searches for lost or missing cases.
5. Assist in resolving the status of problem cases within the PIMS system.

STAFF

Jacqueline Martinez – Medical Records Technician
Dean Gibson – Special Projects Coordinator

ACTIVITIES

During 2001, the division continued to support the Departments of Dermatopathology, Neuropathology and Ophthalmic Pathology, and Endocrine and Otorhinolaryngic/Head-Neck Pathology, and the Division of Nephropathology in various case-processing functions, to include the return of blocks to contributors, performance of case materials inventories, location of missing materials, and return of inactive case materials to the repositories. Other departments were also supported, as time permitted.

Personnel played a major role in the implementation of the Case Triage Service, and Ms. Martinez served as a trainer. At the end of the year, a new division chief was appointed. Plans are in development to assign additional personnel and equipment to this function, in support of departments located on the 2nd floor.



Frank J. Roberts
Quality Assurance Coordinator
Date of Appointment — 19 January 1993



OFFICE OF QUALITY ASSURANCE

MISSION

The Office of Quality Assurance oversees the Institute's quality assurance, risk management, and residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME).

STAFF

Frank J. Roberts, Quality Assurance Coordinator
Nicole Jenkins, Health System Specialist
Estella Page, Office Automation Clerk

ACTIVITIES

To accomplish its mission, the Office of Quality Assurance engages in a variety of management and oversight activities:

- Monitors Institute compliance with DoD's Clinical Laboratory Improvement Program and the accreditation requirements of the College of American Pathologists (CAP) and the ACGME, as well as the Department of the Army and the AFIP quality assurance and graduate medical education regulations.
- Serves as AFIP liaison with the Department of Veterans Affairs (VA) Diagnostic Services quality assurance staff and manages the AFIP/Military/VA Histopathology Quality Assessment Program (HQAP), the VA Cytopathology Proficiency Testing Program, and the Systematic External Review of Surgical Cases Program (SERS).
- Manages and coordinates the AFIP American Red Cross volunteer programs. The quality assurance coordinator represents the AFIP on WRAMC's American Red Cross Advisory Council. During 2001, 22 individuals volunteered over 6,700 hours.
- Maintains a reference library containing publications from CAP, National Committee for Clinical Laboratory Standards, and Occupational Safety and Health Administration standards.
- Manages the medical surveillance and respirator protection programs for American Registry of Pathology contract employees.
- Reviews annually and updates as needed AFIP Regulation 40-8, *Veterans Affairs Pathology Review Program*, AFIP Regulation 40-68, *Quality Assurance Administration*, and AFIP Regulation 351-2, *Policies and Procedures for the Administration of Graduate Medical Education*.
- In coordination with the Office of Safety Management, reviews and updates annually the Institute's bloodborne pathogen exposure control and chemical hygiene plans. The office also instructs Institute staff in the use of universal precautions and protection against bloodborne pathogens, as required by the Occupational Safety and Health Administration (OSHA). Office staff conduct annual training to comply with OSHA's Laboratory Safety Standard and CAP fire extinguisher training requirement.
- Provides senior staff members with statistical data on case accessioning, management, and trends, as requested.

- Manages an external peer-review program with the Brazilian Society of Pathology, State of Sao Paulo. On a bimonthly basis, between 12 to 14 cases are sent to the AFIP for in-house review, and 6 cases per year are sent to Brazil for their review.
- Four Histopathology Quality Assessment Program (HQAP) cases are assembled and mailed quarterly to all military and VA medical centers/hospitals reviewing surgical cases. In 2001, 690 military and VA pathologists were awarded in excess of 9,000 hours of continuing medical education credit for participation in the program.
- On a biweekly basis, 4 cytopathology proficiency testing cases are mailed to 40 participating VA medical centers (all participating VA medical centers receive one mailing per quarter).
- Drafted the first AFIP Occupational Health Program Regulation, to ensure all employees working at AFIP in potentially hazardous areas receive required medical surveillance.
- March—mailed AFIP Fascicle #27, *Tumors of the Gallbladder, Extrahepatic Bile Ducts, and Ampulla of Vater*, to all active-duty military pathologists and VA chiefs of anatomic pathology.
- April—mailed AFIP Fascicle #28, *Tumors of the Prostate Gland, Male Urethra, and Penis*, to all active-duty military pathologists and VA chiefs of anatomic pathology.
- May—mailed AFIP Fascicle #29, *Tumors and Cysts of the Jaw*, to all active-duty military pathologists and VA chiefs of anatomic pathology.
- July—mailed AFIP Fascicle #30, *Tumors of the Soft Tissue*, to active-duty military pathologists and VA chiefs of anatomic pathology.
- July 23-27—Department of Veterans Affairs Annual National Cytopathology Proficiency Testing Meeting, Ann Arbor, Mich, E Page.
- October—coordinated the most successful College of American Pathologists accreditation inspection since AFIP was first accredited in 1986.
- November—mailed AFIP Fascicle #31, *Tumors of the Liver and Intrahepatic Bile Ducts*, to all active-duty military pathologists and VA chiefs of anatomic pathology.



Bruce H. Williams, DVM, DACVP
Chair
Date of Appointment — 1 October 1997

○ ○ ○
○ ○ ○
○ ○ ○

DEPARTMENT OF TELEMEDICINE

MISSION

The Department of Telemedicine supports and enhances the missions and strategic goals of the Armed Forces Institute of Pathology and the American Registry of Pathology by evaluating and deploying emerging telecommunications technology within the Institute. The department maximizes the cost-effectiveness, speed of delivery, and quality of health care services and educational opportunities provided by AFIP and serves as a fertile testbed for new and innovative uses of emerging technology.

STAFF

Medical:

Bruce H. Williams, DVM, DACVP

Administrative:

Daniel R. Butler, HM1, Systems Administrator

Roderick F. Herring, Technical Support Services Specialist

(A) David Draley, Webmaster

DIAGNOSTIC CONSULTATION

<i>Cases</i>	<i>Completed</i>
Military	45
Federal	
VA	11
Civilian	205
Total	261

Average turnaround time for 2001 cases was 3.2 hours, down from 3.4 hours in 2000. The distribution of cases by department for 2001 was as follows:

- Derm—26
- GYN—31
- GU—26
- GI—18
- Soft Tissue—21
- Cell Path—11
- Endocrine—12
- Hematopathology—16
- Hepatic—14
- Oral and Maxillofacial—14
- Ophthalmic—2
- Pulmonary—18

- Neuromuscular—13
- Orthopedic—8
- Hematolymphatic—20
- Infectious Diseases—4
- Veterinary—20
- Radiologic Path—1
- Pediatric—2
- Cardiovascular - 2

Impact:

The AFIP's electronic consultation program is the largest of its kind, as well as the most efficient in terms of case turnaround time. The telemedicine program provides pathology consultation in near- or real-time, impacting at point of care and making significant contributions to patient care. The primary contributors to the department operate in small, independent laboratories with 1 or 2 pathologists, often without recourse to other consultative services.

In December 2001, a retrospective of the AFIP's program was published in the journal *Human Pathology*, which established the AFIP program as the premier consultation service of its kind in the world. The Institute's clinically important concordance rate of 97.3% exceeds currently published standards anywhere in the world. Other papers highlighted the AFIP's unique efforts in the area of telecytology and telehematology.

In 2001, the Department of Telemedicine refined and beta-tested prototypes for the AFIP online version of the Atlas of Tumor Pathology. This electronic version of the Institute's flagship publication provides functionality previously unseen in electronic textbooks, and was received with great enthusiasm by over 400 participants. This prototype provides all of the information covered in the print version, with enhanced search capabilities, and links into the NLM Medline database for all references. The online version results in considerable cost savings, requires less preparation time than comparable print versions, and may be compiled directly to a CD-ROM for resale, as needed.

In 2001, the department received funding through the Cooperative Enterprise Registry to begin a pilot project on image-enabled reporting. Five digital cameras were distributed to pathologists in the following departments: Hepatic and Gastrointestinal Pathology, Orthopedic Pathology, Oral and Maxillofacial Pathology, Otolaryngic and Endocrine Pathology, and Neuropathology and Ophthalmic Pathology. Over the course of 4 to 6 months, we will be analyzing the impact of capturing images and incorporating them into the consultation reports on the pathologist's workflow, as well as surveying the AFIP contributors to discover what beneficial impact this may have, if any.

EDUCATION

Presentations and Seminars: Department staff made 9 presentations in 2001, for a total of over 2,650 contact hours.

Courses: Department staff participated in 8 courses.

Trainees: Departmental staff provided a total of 125 training days (88 nonfederal, 19 foreign national, 18 federal).

Educational Aids: The department provided updates or original designs to 26 AFIP Web sites, extensive content to 2 AFIP sites, and e-commerce functionality to 2 ARP Web sites.

Telemedicine Exhibits: USCAP Meeting, Atlanta, Ga.

RESEARCH

Publications: Departmental staff published 5 journal articles, 2 abstracts, and 2 posters in 2001, and provided 4 course syllabi.

Projects: One active research protocol was conducted in the department in 2001, Telepathology Consultation at the AFIP, culminating in a peer-reviewed article. Research was completed on one 5-year research project on coronavirus infection in ferrets, culminating in publication in a mainstream veterinary medical journal.

OTHER ACCOMPLISHMENTS

Collaborators:

Military/Federal:

1. Dept. of Pathology, WRAMC, Feasibility Study of Real-time Pathology Consultation
2. NIAAA, National Institutes of Health, Cyclocreatine in Rat Hepatocarcinogenesis Model
3. NIAAA, National Institutes of Health, Modulation of Iron Metabolism in Mouse Macrophages by Cytokines
4. NCI, Bethesda, Md, Familial Testicular Neoplasia Study

Civilian:

1. American Registry of Pathology, Online Fascicles of Tumor Pathology
2. American Telemedicine Association, Telemedicine Special Interest Working Group
3. Illumea Corporation, Feasibility Study of Real-time Pathology Consultation

International:

UICC-TPCC Collaboration Center, Berlin, Germany, WHO Second-Opinion Electronic Consultation

Interdepartmental:

1. Department of Cellular Pathology and Genetics, Telecytology
2. Department of Hematopathology, Telehematology
3. AMS, Image-enabled Reporting (Integration with PIMS)
4. AMS, Online Accessioning

Committees:

Manuscripts Reviewed: Members of the department reviewed 8 articles for the following journals:

1. *Veterinary Pathology*
2. *Laboratory Animals*
3. *Journal of the American Veterinary Medical Association*

Offices/Committee Memberships in National or International Societies:

BH Williams

1. Senior Vice President, CL Davis Foundation for the Advancement of Veterinary Pathology
2. Member, ACVP WWW Committee
3. Member, Editorial Board, *Veterinary Pathology*

New Missions:

1. AFIP Online Atlas of Tumor Pathology
2. Real-time Pathology Consultation Feasibility Study
3. Image-enabled Reporting

Missions Dropped:

Lensless Scanner Evaluation

Official Trips:

1. March 2001, United States/Canadian Academy of Pathology, Atlanta, Ga, D Butler (ARP)
2. June 2001, Brazilian Academy of Pathology, Bahia, Brazil, D Butler (ARP)
3. October 2001 European Academy of Pathology, Berlin, Germany, B Williams (EAP)

Public Affairs Reports: AFIP Telemedicine chair widely known as ferret pathologist. *AFIP LETTER*. April 2001.

PRESENTATIONS:

1. February 2001: Herndon, Va, NOVA, "Basic Care and Diseases of the Domestic Ferret," B Williams
2. April 2001: Washington, DC, Gross Morbid Anatomy of Diseases of Animals, "Macroscopic Description in Veterinary Pathology," B Williams
3. June 2001: Washington, DC, "AFIP Weekly Professional Staff Conference," B Williams

4. June 2001: Washington, DC, "Macroscopic and Microscopic Description in Veterinary Pathology," B Williams
5. June 2001: Bahia, Brazil, Brazilian Academy of Pathology, "Telepathology and Digital Imaging," D Butler
6. August 2001: Washington, DC, AFIP Pathology of Laboratory Animals Course, "Pathology of the Domestic Ferret," B Williams
7. October 2001: Nantes, France, "Macroscopic and Microscopic Description in Veterinary Pathology," B Williams
8. September 2001: Berlin, Germany, European Society of Pathology, Keynote Lecture: "Telepathology: Perspective or Disaster for the Future of Pathology," B Williams
9. November 2001: Bethesda, Md, "Introduction to Diagnostic Pathology in Laboratory Medicine and Research," B Williams

PUBLICATIONS

Journal Articles

1. Williams BH, Mullick FG, Butler DR, Herring RF, O'Leary TJ. Clinical evaluation of an international static image-based telepathology service. *Hum Pathol.* 2001;32:1309-1317.
2. Williams BH. Splenic rupture following palpation in a ferret. *Exotic DVM.* 2001;3:7-8.
3. Alli PM, Ollayos CW, Thompson LD, Kapadia I, Butler DR, Williams BH, Rosenthal DDL, O'Leary TJ: Telecytology intraobserver and interobserver reproducibility in the diagnosis of cervical-vaginal smears. *Hum Pathol.* 2001;32:1318-1322.
4. Allen EA, Ollayos CW, Tellado MV, Butler DR, Buckner SB, Williams, BH, O'Leary TJ. Characteristics of a telecytology consultation service. *Hum Pathol.* 2001;32:1323-1326.
5. Fisher SI, Nandekhar, MA, Williams BH, Abbondanzo SL. Telehematopathology in a clinical consultative practice. *Hum Pathol.* 2001;32:1327-1333.

Abstracts

1. Fisher SI, Nandekhar, MA, Williams BH, Abbondanzo SL. Is telehematopathology an efficacious diagnostic modality for the early 21st century? One institution's experience with sixty consultative cases. US/Canadian Academy of Pathology; March 2001; Atlanta, Ga.
2. Saladino B, Williams B, McLean I. Retinal degeneration in domestic ferrets. American College of Veterinary Pathologists; December 2001; Salt Lake City, Utah.

Other Publications

1. Williams BH, Murakata L. Neoplasms of the liver in the domestic ferret (*Mustela putorius furo*). American College of Veterinary Pathologists; December 2001; Salt Lake City, Utah. Poster.
2. Bouchiha S, Williams B, Young D, Garner M. Vascular neoplasia in the domestic ferret (*Mustela putorius furo*). American College of Veterinary Pathologists; December 2001; Salt Lake City, Utah. Poster.

ADMINISTRATION

OFFICE OF THE CHIEF OF STAFF

DIRECTORATE OF HEADQUARTERS
OPERATIONS

DIRECTORATE OF INFORMATION
MANAGEMENT

DIRECTORATE OF LOGISTICS

OFFICE OF PUBLIC AFFAIRS

DIRECTORATE OF RESOURCES
MANAGEMENT

OFFICE OF SAFETY MANAGEMENT





Lawrence E. Shaw, LTC, MS, USA
Date of Appointment — I December 2000



OFFICE OF CHIEF OF STAFF FOR ADMINISTRATION

STAFF

Lawrence E. Shaw, LTC, MS, USA, Chief
(D) Marjorie Jackson, COL, MS, USA
(D) John T. Wilcox, COL, MS, USA

MISSION

The Office of the Chief of Staff for Administration oversees the administrative activities of the Armed Forces Institute of Pathology; advises and assists the Director and Principal Deputy with executive level administrative functions and protocols; interfaces and coordinates with the executive staff of OTSG, NARMC, MEDCOM, and other DoD and DA agencies on functional areas related to the Institute; oversees the Institute's Headquarters Operations, Information Management, Logistics and Facilities, Resources Management, and Safety Departments; directs an administrative staff of approximately 200 personnel; and manages the Institute's \$54 million operating budget and \$11 million construction funds.

COMMITTEES

Executive Committee, AFIP
Safety Committee, Chair
Personnel Development Committee
Awards and Recognition Subcommittee, Chair

ACTIVITIES

The primary focus of the administrative staff is the increase of the scope and quality of support provided, with greater accountability and responsiveness to the needs of the separate departments providing consultation, education, and research services at the world's premier pathology institute. The administrative staff is committed to meeting the immediate and long-range strategic needs of the Institute. The year's end was marked by one of the most horrific acts of terrorism in the history of the country. On September 11th, three US airliners, in a near simultaneous attack, deliberately and precisely crashed into the Twin Towers of New York's World Trade Center and the Pentagon in Arlington, Virginia. A fourth terrorist-hijacked airliner, believed to be en route to targets in Washington, DC, crashed into a field in Somerset, Pennsylvania. The terrorist attacks prompted an immediate response from the combined assets within the Institute, as well as the tenant organizations on the installation. Significant projects included the smooth transition of the Ash Library to the Department of Medical Education. The transition plan included specific milestones for modernization and systems overhaul. The office supported new concepts, eg, Corporate Express, for Institute-wide saving on office supplies, and was a strong supporter of the CPOC reorganization for the National Capital Region. The CPOC functions were transferred to Rock Island, Ill, North Central, in September, and improvements on personnel actions were immediately realized. The office added the concept of extended tour awards and formal recognition for sustained excellence in physical fitness testing, and revised the awards committee charter and the AFIP

awards regulation to allow for ARP participation.

The office continued to encourage high levels of support for installation programs such as the Combined Federal Campaign (CFC), Better Opportunities for Single Soldiers (BOSS), and Intramural Sports. AFIP exceeded the CFC target by over 15%, won the installation championship in basketball, and finished the year with over 90% of assigned Army personnel enrolled in the Army Knowledge On-Line (AKO) program.

The Institute began the year with the installation Physical Security inspection; followed by the Mock Biological Weapons Convention (BWC) inspection, the Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC) inspection, and the College of American Pathologists (CAP) inspection. The year ended with an extensive DoD IG evaluation of the security controls for select biological agents. As the executive agent for the Institute, the Army provided the initial guidance for the establishment of a Biological Surety Program. This was in direct response to the post-September 11 anthrax crisis. The administrative staff provided dedicated support to all the inspections and in many of the after-action reviews, and were noted for their laudatory performance.

Additionally, there were a number of visits for assistance by Logistics, Safety, Equal Employment Opportunity, the Installation Commander and the Provost Marshal, and by the Civilian Personnel Office Advisory Center (CPOC). There was also a manpower survey, completed in May, by validating requirements for 917 personnel.

The Institute worked closely with the Medical Center and the OTSG Emergency Operations Center (EOC) during the Pentagon recovery, Operation Noble Eagle. The EOC concept was established as a temporary operation and communication center. During the anthrax mail crisis, the Safety and Information Management Departments spearheaded the development of emergency policy for handling mail.

Throughout the year, enhancements were made on the life-safety facility issues. The Institute established the Hazardous Substance Management System (HSMS) for managing chemicals. Security and access procedures were streamlined; new badges were issued; and significant improvements were noted in the operation and responsiveness of the Information Desk personnel. Greater emphasis was placed on military readiness.



Patricia A. Marshall
LTJG, MSC, USNR
Director, Headquarters Operations
Chief, Military Personnel
Date of Appointment—22 May 2000



DIRECTORATE OF HEADQUARTERS OPERATIONS

MISSION

The directorate is liaison to the various military personnel offices located at Walter Reed Army Medical Center, the Air Force Military Personnel Flights at Bolling and Andrews Air Force Bases, and the Personnel Support Detachment at NNMC Bethesda. The AFIP military service representatives coordinate all military personnel actions, ensuring accuracy and enabling the Military Personnel Office to provide better communication through a single point-of-contact. The functions of this office include military personnel in/out processing, military performance evaluations, military leave, special pays and pay statements, promotions, separations, retirements, personnel actions, military awards, personnel tracking, duty rosters, and collateral duty assignments.

STAFF

- Rayford Jones, MSgt, USAF, Assistant Chief, MILPO, HQ Ops
- Ruby Fletcher, SSG, USA, NCOIC, Army Personnel Representative
- Jeffrey McClain, SSG, USA, Army Personnel Representative
- Cecilia Porter, YN3, USN, Navy Personnel Representative
- Fionna Larcom, YN3, USN, Navy Personnel Representative
- Alisha Green, YN3, USN, Awards Clerk

OVERVIEW

The Military Personnel Office provides administrative support to over 800 civilians and 176 military officer and enlisted personnel located at three different sites. The staff develops policies, procedures, and standards in support of the Institute’s mission, vision, goals, objectives, and ongoing initiatives in the areas of manpower, military personnel, and operational readiness.

The Military Personnel Office is also responsible for reviewing and evaluating the activity’s manpower documents and each service’s specific documents, ensuring requirements are accurately stated, and identifying and preparing change requests, as directed.

ACCOMPLISHMENTS

The following programs were reestablished: Defense Messaging System, Consideration of Others Program, and Army Personnel Requisitions.

The focus for most part of 2001 was directed at maximizing our operational readiness and increasing the scope and quality of support provided, with greater accountability and responsiveness to the needs of our external and internal customers.



Cathy N. Troutman, MAJ, MS
Director
Date of Appointment — 1 June 2000



DIRECTORATE OF INFORMATION MANAGEMENT

MISSION

The Directorate of Information Management provides information management, technology, and services to the AFIP. Under the provisions of AR 25-1, the directorate provides support for automation, visual information, telecommunication, records management, and distribution services in support of a worldwide mission of consultation, education, and research. The directorate designs and implements state-of-the-art technologies to solve important military issues.

ORGANIZATION

The directorate is organized into 4 divisions and the Office of the Director:

1. Automation Management Services Division
2. Distribution Center/Mailroom Distribution Center
3. Records Management Division
4. Visual Information Division

STAFF

Cathy N. Troutman, MAJ, MS, Director
Albert J. Judd, Deputy Director
Bobbie J. Turner, ENS, Plans and Operations Officer
Faith Dixon, Administration Support
Jeanette Griffin, Office Administrator

AUTOMATION MANAGEMENT SERVICES DIVISION (AMSD)

Hazelann Teamer, LTJG, MSC, USN
Chief

MISSION

The Automation Management Services Division (AMSD) provides a comprehensive range of automation support, communications, and other information management services to the Institute. AMSD manages a local area network of more than 1,000 devices, including support to remote buildings at Forest Glen, Silver Spring, and the AFIP Annex in Rockville, Md. AMSD acquires and maintains administrative and clinical software applications for the Institute.

ORGANIZATION

The division is organized into 5 branches:

1. Customer Support/Training
2. Systems Development/Migration

3. Computer Operations
4. Network Support/Migration
5. Contract Support

STAFF

Office of the Chief:

Hazelann Teamer, LTJG, MSC, USNR, Chief
Rose Oscars, Telecommunication Security and Control Officer (TSCO)

Customer Support/Training:

Edwanna Jones, Help Desk Manager
Gerald Winchester
(D) James Adams, SPC, USA
John Simpson
Luz Velasco

Systems Development/Migration:

Robert Mills, Deputy Chief
Dante Burruss
Alec MacClintock
Barry Schell
Patricia Niwenizin

Computer Operations:

Bobby Knight, Assistant Chief
Glenda Williams
(D) Billy Bryant

Network Support/Migration:

William Rohland, Assistant Chief
Herbert Greene

Contract Support:

Peter Uba
Juet Duckworth
Peter Gray
(D) Annette Simpson
Samson Seyfou (part-time)
Tan Ly
Theodore Blount
Guy Kelly
Roza Podkovyrova
James Wood
Salita Vladimir
(D) Barry Randolph

ACCOMPLISHMENTS

- Upgraded the PIMS SQL server hardware and software.
- Provided an interface to PIMS to link the database with the consultation letter and material-return letters, simplifying case-finalization procedures.
- Successfully completed DITSCAP inspection with a rating of “outstanding.”
- Implemented and trained personnel on the use of Portable Data Collection devices, enabling the Institute to account for all specimens.
- Instituted a new data backup scheme to allow restoration of AFIP critical data anywhere in the world, in case of a military or civilian emergency.
- PIMS development team added many new services to the bare bones release of PIMS 2000 and tripled the amount of functions available to AFIP staff on the PIMS intranet site, including many new reports. Our e-mail server and primary storage devices were vastly improved in capacity and speed.
- AMSD staff continued support of network, server, telecommunications, and PC operations.

MAIL DISTRIBUTION CENTER

Lenora Hicks, Supervisor

STAFF

Lenora Hicks, Chief
Kevin Doster

MISSION

The mailroom provides mail/distribution services to the AFIP in support of a mission of consultation, education, and research, under the provisions of the AR-25-51, IM Policy 25-02-01 (Mail Handling Guidance).

ACCOMPLISHMENTS

The mailroom processes approximately 100,000 pieces of mail annually. The staff works with the US Post Office and the installation mailroom to ensure timely delivery of incoming and outgoing mail. The mailroom takes delivery of packages other than case materials from private courier services, and sorts and prepares the AFIP foreign mailers for metering. As a result of the anthrax incidents, the mail-handling procedures for incoming and outgoing mail have been updated.

RECORDS MANAGEMENT DIVISION

Bonnie Short, Management Analyst (Records Management)

MISSION

The Records Management Division supports the staff of the AFIP with forms, publications, printing, training, consultation, and archiving under the Records Management Program. The office ensures that all Institute forms, directives, and media are current, while keeping up with the latest technology to optimize time and economy and enhance the “paperless office.”

ACCOMPLISHMENTS

The office is responsible for the Institute’s digital imaging copier program. Subsequent developments to the program included the replacement of many of the centrally located copiers, a new lease agreement, and an improved maintenance service agreement for owned copiers. The office continues to support the Freedom of Information Act (FOIA) and Privacy Act (PA) functions, and to update AFIP regulations and policy letters. Presently, the AMEDD Electronic Forms Support System (AEFSS), version 4.5, which includes electronic signature, is being installed throughout the Institute, replacing the JetForm Forms Flow program.

VISUAL INFORMATION DIVISION

Joseph Durick, Jr, Chief

MISSION

The Visual Information Division provides photography, illustrations, exhibit production, material for publication, and illustration archiving services to the Institute.

ORGANIZATION

The division is organized into 4 sections and the Office of the Chief:

1. Photography Section (Photomic and Gross)—Veronica Ferris, MFS
2. Photography Section (Lab)—Kenneth J. Vrtacnik
3. Electronic Multimedia Imaging Center—Douglas Landry
4. Exhibit Production—Larry W. Claiborne

STAFF

Office of the Chief:

Joseph Durick, Jr, Chief
Bobby Meeks

Photography Section (Photomic and Gross):

Veronica Ferris, Lead Medical Photographer
Anthony Shirley
Andy Morataya

Photography Section (Lab):

Kenneth J. Vrtacnik, Chief
Anita A. Belen
Aubrey Chester
Robert Edwards
Leonard Fitzgerald
Jeanette Griffin
Beverly (BJ) Jones
Sharon Kelley
Steve Kruger
Thomas Lynn
Vincent Neaz
Julie Toohey

Electronic Multimedia Imaging Center:

Douglas Landry, Chief
Michael Smith, TSgt, USAF
Sheryl Hollis, SrA, USAF

Exhibit Production:

Larry Claiborne, Chief
James Crane
Pauline Dixon
Harold Felder
Alan Giese
Seth B. Jones
William McLain
Erin Oliphint, Sgt, USAF
David Shupay, SSgt, USAF
(D) Roy Stevens, TSgt, USAF
Venetia Valiga
Cassandra Wood-Gilchrist

PHOTOGRAPHY SECTION (PHOTO AND LAB)

MISSION

The Photography Sections provide all phases of medical photography for AFIP staff and the medical services of the Armed Forces, other federal agencies, and authorized civilian medical institutions and individuals. The sections provide training in medical and scientific photography and personnel for technical assistance in investigative studies of pathological and medical research and clinical problems. The sections provide photographic laboratory services for the processing of all black-and-white and color photographic illustrations.

ACCOMPLISHMENTS

Requests for photographic services remained approximately the same in 2001; 437,520 items were processed. About 10% of the production represents services provided to WRAMC customers.

The sections continued to upgrade equipment for improved services, and also expanded digital photographic capabilities and products. During 2001, a program was established to provide VID photographers, when needed, for assigned OAFME projects. The photographers were used in two medical projects in 2001, including the terrorist attack on the US Pentagon on September 11, 2001.

ELECTRONIC MULTIMEDIA IMAGING CENTER (EMIC)

MISSION

The Electronic Multimedia Imaging Center produces medical art, illustrations, poster sessions, layout design, and camera-ready copy for brochures, educational syllabi, and other publications, and explores innovative and cost-effective processes for the distribution of medical information. The section also provides training in all applications of digital imaging to the AFIP professional staff.

ACCOMPLISHMENTS

During 2001, EMIC produced 76 new poster sessions, as well as 6 updates from previous poster sessions (a slight decline from 88 posters in 2000). The center also scanned over 7,500 images for syllabi, 2x2 slides, and on-screen presentations. Additionally, EMIC produced 12 course syllabi for the Department of Medical Education, representing an increase of 25% and approximately 50% of all syllabi produced in 2001.

In addition, EMIC is currently working on a 3-D reconstruction of the patella for the Department of Orthopedic Pathology.

THE EXHIBIT PRODUCTION SECTION (EPS)

MISSION

EPS is responsible for medical/scientific exhibits of the DoD Tri-Service Medical Command, including services to Veterans Affairs, the US Coast Guard, AFIP, the National Museum of Health and Medicine, and the Commissioned Corps of the US Public Health Services. The mission directive covers the procedures for requesting, producing, and displaying medical/scientific exhibits through the use of AFIP's scientific illustration and exhibit design and creative processes.

EPS provided management services for portable and custom-made exhibits and poster sessions: shipping and showing services, maintenance, storage, and custom design of medical/scientific exhibits for local, national, and international conventions, symposiums, and exhibitions.

In 2001, we exhibited at 77 conferences and exhibitions, including 12 new exhibits. OTSG, the Pentagon, NARMC, USA CHPPM, NAMRL, DOD/VA, USAMRMC, TATRC from Ft Detrick, and the varied tri-service agencies of the DOD Medical Command, including MEDCOM Marketing HQ and WRAMC, were among our customers.

The other services provided to the AFIP and the host facility included 250 engravings of coins, door signs, name plates for plaques, 3 display windows, and 3 exhibit projects for the National Museum of Health and Medicine, including the design and construction of the Lobby Gift Shop and the Angels of Mercy and Arsenic Poisoning exhibits. EPS designed and created the World Slavery Exhibit requested by Mr. Stephen Taylor for EEO at WRAMC. EPS also designed and produced the custom display cabinet in the lobby of AFIP. Photocopying; lamination of poster sessions and of new and refurbished exhibit display panels; custom framing and matting; and flyers, brochures, certificates, and posters were also provided.

ACCOMPLISHMENTS

CONFERENCES	PARTICIPANTS
SMA Conference	US Army Medical Command Marketing HQ
El Paso, TX	
8-15 Jan 01	
TRICARE Conference	US Army Medical Command Marketing HQ
Washington, DC	US Army Center for Health Promotion & Preventive Medicine
22-25 Jan 01	DOD/VA Clinical Practice Guidelines
	MEDPROS – AMEDD/ASMR
	NARMC – Walter Reed Army Med Center
	RITPO –Fairfax, VA
	WHRSC – Walter Reed Army Medical Center

	AFIP – Department of Legal Medicine
NARMC	North Atlantic Regional Medical Command
Alexandria, VA	
26-28 Jan 01	
ROA	USA Center for Health Promotion & Preventive Medicine
Washington, DC	AFIP – Department of Legal Medicine
4-7 Feb 01	
HIMSS 2001	RITPO – Fairfax, VA
New Orleans, LA	MEDPROS – Fairfax, VA
4-8 Feb 01	
ARMY NATL GUARD	US Army Medical Command, Marketing HQ
Little Rock, AR	US Army Center for Health Promotion & Preventive Medicine
5-9 Feb 01	
ACTIVE RESERVE	GRPMC – San Antonio, TX
San Antonio, TX	
9-11 Feb 01	
AJHP	US Army Center for Health Promotion & Preventive Medicine
Washington, DC	
12-17 Feb 01	
AMERICAN ACADEMY	AFIP – Office of the Armed Forces Medical Examiner
Of FORENSICS	
Seattle, WA	
21-23 Feb 01	
SECO	US Army Center for Health Promotion & Preventive Medicine
Atlanta, GA	
21-25 Feb 01	
US & CANADIAN	AFIP-ARP
CONFERENCE	
Atlanta, GA	
5-7 Mar 01	
ILSC	US Army Center for Health Promotion & Preventive Medicine
San Diego, CA	
5-8 Mar 01	
SOCIETY OF	AFIP-Registry of Toxicologic Pathology in Animals
TOXICOLOGY	
San Francisco, CA	
25-29 Mar 01	
SPERANDIO CONF.	MEDPROS – Fairfax, VA
Dallas, TX	US Army Center for Health Promotion &
25-30 Mar 01	Preventive Medicine
AMEDD NCO CONF	US Army Medical Command Marketing HQ
San Antonio, TX	
25-30 Mar 01	
UNIFORMED SERVICE	DOD/VA Clinical Practice Guidelines
ACADEMY OF FAMILY	
PHYSICIANS	
San Diego, CA	
1-6 Apr 01	
AMOPS	US Army Center for Health Promotion & Preventive Medicine
Las Vegas, NV	
2-4 Apr 01	
ARMY AVIATION	USAARL – Ft. Rucker, AL
ASSOCIATION OF	
AMERICA	
Charlotte, NC	
4-7 Apr 01	
SOCIETY OF ARMED	AFIP – Forensic Toxicology Department
FORCES LABORATORY	
SCIENTISTS	
Houston, TX	
8-10 Apr 01	

AMEDD SR NCO CONF US Army Medical Command Marketing HQ
 San Antonio, TX
 8-13 Apr 01
 LEADERSHIP CONF US Army Center for Health Promotion & Preventive Medicine
 San Antonio, TX
 15-20 Apr 01
 27th ENVIRONMENTAL US Army Center for Health Promotion & Preventive Medicine
 Austin, TX
 23-26 Apr 01
 AEROSPACE CONF USAARL – Ft. Rucker, AL
 Reno, NV
 NAMRL – Pensacola, FL
 8-9 May 01
 2001 TRICARE DOD/VA Clinical Practice Guidelines
 CENTRAL Evidence Based Conditioning
 Colorado Springs, CO
 8-9 May 01
 CLEO US Army Center for Health Promotion & Preventive Medicine
 Baltimore, MD
 8-10 May 01
 FRENZY AFIP-PAO
 Washington, DC
 15-17 May 01
 3rd ANNENBERG CONF AFIP – Department of Legal Medicine
 St Paul, MN
 16-18 May 01
 ALT MPMC CONF USAARL – Ft. Rucker, AL
 Lancaster, PA
 21-24 May 01
 ARMOR CONFERENCE US Army Medical Command Marketing HQ
 Fort Knox, KY US Army Center for Health Promotion & Preventive Medicine
 19-24 May 01
 AUSA MEDICAL US Army Center for Health Promotion &
 SYMPOSIUM Preventive Medicine
 San Antonio, TX WHRSC – Walter Reed Army Medical Center
 29 May–02 June 01 MEDPROS – Fairfax, VA
 US Army Medical Command Marketing HQ
 AIHCE US Army Center for Health Promotion & Preventive Medicine
 New Orleans, LA USA-CHPPM, DOEHS
 4-6 Jun 01
 INFANTRY CONF US Army Medical Command Marketing HQ
 Ft Benning, GA US Army Center for Health Promotion & Preventive Medicine
 11-15 Jun 01
 TRICARE REG I DOD/VA Clinical Practice Guidelines –
 Crystal City, VA Evidence Based Conditioning
 25-28 Jun 01
 SOCIETY OF AFIP-Registry of Toxicology in Animals
 TOXICOLOGY
 PATHOLOGISTS
 Orlando, FL
 26-28 Jun 01
 AMERICAN OPTICAL US Army Center for Health Promotion & Preventive Medicine
 ASSOCIATION
 Boston, MA
 27 Jun-1Jul 01
 AMERICAN ACADEMY DOD/VA Clinical Practice Guidelines -
 OF NURSES Evidence Based Conditioning
 Orlando, FL
 27 Jun-1 Jul 01
 NEHA US Army Center for Health Promotion & Preventive Medicine
 Atlanta, GA
 1-2 Jul 01
 NON-COM ASSOC. US Army Medical Command Marketing HQ

Orlando, FL	
5-7 Jul 01	
TC WEEK	US Army Medical Command Marketing HQ
Ft Eustis, TX	
23-28 Jul 01	
BOY SCOUT	US Army Center for Health Promotion & Preventive Medicine
JAMBOREE	
Camp AP Hill, VA	
23 Jul-1 Aug 01	
TRICARE MID	DOD/VA Clinical Practice Guidelines –
ATLANTIC CONF	Evidence Based Conditioning
Chesapeake, VA	
25-26 Jul 01	
FORCE HEALTH	US Army Center for Health Promotion & Preventive Medicine
PROTECTION CONF	US Army Medical Command Marketing HQ
Albuquerque, NM	AFIP – PAO
25-30 Aug 01	DOD/VA Clinical Practice Guidelines –
	Evidence Based Conditioning
	USA CHPPM – DOEHRs
	USA CHPPM – Soldiers Radio & TV
ENVIRO-PRO	US Army Center for Health Promotion & Preventive Medicine
MEXICO	
25-26 Sep 01	
HUMAN FACTORS	US Army Center for Health Promotion & Preventive Medicine
And ERGONOMICS	
Minneapolis, MN	
9-10 Oct 01	
3 rd DMMM	DOD/VA – CANCELLED, due to 11 Sept 01
New Orleans, LA	
10-12 Oct 01	
APHA.....	US Army Center for Health Promotion & Preventive Medicine
Atlanta, GA	
21-25 Oct 01	
AUSA	CANCELLED – due to 11 Sept 01
15-17 Oct 01	5 Groups usually attend
6 th DMMM	DOD/VA – CANCELLED, due to 11 Sept 01
Boston, MA	
22-24 Oct 01	
AMSUS	CANCELLED – due to 11 Sept 01
4-9 Nov 01	23 Groups usually attend – 4500 Sq Ft
ACT	AFIP – Registry of Toxicologic Pathology in Animals
Washington, DC	
4-7 Nov 01	
RSNA	AFIP – Department of Radiology
Chicago, IL	
30 Nov – 3Dec 01	
ACVP	AFIP – Registry of Toxicologic Pathology in Animals
Salt Lake City, UT	
4-7 Dec 01	
WORLDWIDE	US Army Medical Command Marketing HQ
Retention Conference	
Ft Eustis, VA	
1-4 Nov 01	
AMA	AFIP-PAO/MUSEUM
San Francisco, CA	
21-23 Dec 01	

CARPENTRY SHOP SERVICES

Carpentry shop services to the Institute, Museum, Pentagon, OTSG, and WRAMC were as follows:

1. Engraving Projects 250

2. Construction Projects	69
3. Framings (Custom)	41
4. Museum Exhibits	3
5. Traveling Exhibits	16
6. Show Services	77
7. Tabletop Exhibits	13

EPS collaborated with DMIS on many of these projects and design themes for exhibits. DMIS and EPS were reorganized as one unit in 2000.

DIGITAL MEDIA ILLUSTRATION SERVICES (DMIS)

MISSION

Digital Media Illustrations Services produces medical art, illustrations, poster sessions, exhibit design, and camera-ready copy for brochures, educational syllabi, and other publications, and requested general art work. DMIS also provides digital imaging in all forms of media and illustration, and training in all applications of digital imaging to the AFIP professional staff.

ACCOMPLISHMENTS

1. General Art	2,089
2. Medical Illustrations	45
3. Poster Sessions	105
4. Exhibits	15
5. Color Copies	3,500
6. Certificates	1,625
7. Flyers/Brochures	5,000
8. Display Windows	2



William McCarthy, MAJ, MS, USA
Director
Date of Appointment—28 August 2000



DIRECTORATE OF LOGISTICS

MISSION

The Directorate of Logistics integrates long-range and daily sustainment efforts with the AFIP to provide on-time materials and services. Sustainment efforts include equipment acquisition, receipt, and delivery; supply requisition processing; property accountability; facility maintenance and repair; housekeeping; space management; hazardous substance management services; construction project management; biomedical maintenance operations; and contract management encompassing the American Registry of Pathology, Franchise Business Activity (Star Digital), J&J Maintenance, and B&B Housekeeping contracts. The directorate strives to provide flexible, responsive, economical, and attainable supplies, equipment, and services to enhance and support the array of missions and operations at the AFIP.

ORGANIZATION

The directorate is organized into 5 major divisions, including the Office of the Director:

- Office of the Director of Logistics
- Facilities and Services Division
- Materiel Acquisition Division
- Materiel Receiving and Distribution Division
- Property Management Division

The directorate is also organized into 4 special staff functional areas organized under the director and deputy director:

- Space Management
- Engineering and Renewal
- Logistics Analyst
- Hazardous Materials Management

STAFF

- William McCarthy, MAJ, MS, USA, Director
- Lonnie Winley, Deputy Director; Chief, Property Management Division
- Paula Hunter, SSG, USA, DOL NCOIC
- Sonia Cross, Logistics Analyst
- Ted Gross, Mechanical Engineer and Chief, Renewal Project
- Ted Polk, Space Manager
- Parks Wilson, Administrator for Transition Planning
- (A) Jean Giles, Administrative Assistant
- Facilities and Services Division:*
 - Cornelius L. Reeder, Chief and Facility Manager
 - Amaryllis B. Olasehinde, ENS, USN, Chief, Facility Management Branch
 - Allen Harris, Quality Assurance/Quality Control Manager
 - Alan Terpolilli, Project Manager

Jerry Houston, Project Manager
 Rosalind Vines, DLMSS Manager
 Willie Poole, Parts & Tools Attendant
 Rick Phillips, Maintenance Supervisor
 Al Bradley, Lead Engineer
 Mark Waddy, Maintenance Mechanic
 Raj Jeevaraj, Carpenter
 Francis Foreman, Plumber
 Larry Harris, HVAC Mechanic
 John Massey, Maintenance Mechanic
 Gary Brown, Executive Housekeeper
 Rey Reyes, Project Manager
 Maria O. Reyes, Supervisor
 Esther Aleman, Housekeeper
 Rosa Amaya, Housekeeper
 Imorou Brimah, Housekeeper
 Gloria Buruca, Housekeeper
 Fredy Fuentes, Housekeeper
 Maria D. Mejia, Housekeeper
 Bladimir Plaitez, Housekeeper
 Idalia Reyes, Housekeeper
 Isabel Reyes, Housekeeper
 Silvia Reyes, Housekeeper
 Sonia Salamanca, Housekeeper
 Eleno Sibrian, Housekeeper
 Gloria Viera, Housekeeper
 Edward Dantley, Housekeeper
 Jose Romero, Housekeeper
 Denis Rosendo, Housekeeper
 Sandra Vasquez, Housekeeper
 Blanca Abarca, Housekeeper
 Jose Martinez, Laborer
 Jose Guevara, Laborer

Materiel Acquisition Division:

- (D) Jennifer Ferguson, CPT, MS, USA, Chief and COR, ARP Contract
- (A) Lanelle Chisolm, CPT, MS, USA, Chief
 - Viola Fugate-Watkins, SGT, USA, Acting Chief
 - Ricardo Montalvo, SGT, USA, NCOIC/Supply Technician
 - Jerome Thorpe, Lead Supply Technician
 - Alonza Snipes, Purchasing Agent/IMPAC Coordinator
- (D) Chastain Black, SPC, USA, Supply Technician
 - Debbie Kohnhorst, Project Support Clerk

Receiving and Distribution Division:

Willie Vaughn, Chief
 Dierdra Carey, Inventory Technician
 Gary Dangerfield, Driver/Materiel Handler
 Leroy Nelson, Materiel Handler
 Mitchel Feaster, Materiel Handler

Property Management Division:

- Lonnie Winley, Chief
- Rudolph Wynn, Property Book Officer
- Gordon Whitsitt, MEDCASE Manager
- Ty Lassiter, Supply Technician
- Christeen Baker, Supply Technician
- (D) Luis Flores, SPC, USA, Supply Specialist
 - Clifton Ayers, Supply Technician
 - George Williams, Chief, Biomedical Maintenance
 - Paul Komula, SGT, USA, Advance Biomedical Maintenance Technician
 - Michael Patnode, SPC, USA, Biomedical Maintenance Technician
 - Phyllis Nicholson, Purchasing Agent
 - Bridgette Cobblah, Senior Biomedical Maintenance Technician
 - Willie McDaniel, Senior Biomedical Maintenance Technician

FACILITIES AND SERVICES DIVISION

The Facilities and Services Division is responsible to the director of Logistics for facility management and maintenance for approximately 600,000 sq ft of research and administrative buildings, and for technical and administrative management of Facility Maintenance, Environmental Services, Services Procurement, and the Project Management Branches. The division ensures the Institute is in compliance with applicable Life Safety Codes and construction safety programs, and coordinates the Physical Security Program for the Institute. The division established and implemented operating procedures and policies in accordance with established objectives, schedules, and program funds; managed sustainment program through facility assessment, major repair program, Medical Military Construction (Medical MILCON) program, technical assistance program, monitoring facility management of research facilities, and continuous communication with the United States Army Medical Command (MEDCOM); provided daily guidance for the operation, maintenance, and repairs, including heating, ventilation, air conditioning, fire protection, and electrical and communication system for all facilities within the AFIP; and provided programs to ensure performance of high-quality maintenance and service actions. The division also implements, documents, and assesses programs to ensure continued quality of services provided; exercises discretionary authority to approve the allocation and distribution of UMB K and L funds in the AFIP facility budget; and coordinates with US Army Medical Command (MEDCOM), US Army Health Facility Planning Agency (HFP), US Corps of Engineers District and Headquarters (COE-HQ), and Walter Reed Army Medical Center (WRAMC) on issues relating to AFIP's facilities.

Maintenance Budget:

1. \$1.99M Facility O&M Budget
2. \$2.3K Credit Card
3. \$25M Renewal Projects
4. \$260K Repair and Renovation Projects
5. \$628K Housekeeping Budget

Accomplishments:

1. Managed an increase of 7.3% in the annual O&M budget
2. Quality Assurance (QA) Program – 3,700 QA inspections
3. Inspected, documented, and secured 125 utility systems to ensure security issues were adequately addressed.
4. Conducted 431 telephone surveys and site visits to gather information on customer satisfaction.
5. Established Environmental & Grounds Branch, responsible for housekeeping and AFIP grounds maintenance.

Facility Maintenance Branch: During 2001, the Facilities Maintenance Branch served customers effectively and provided education and training to our staff. The primary focus was to provide sustained scheduled repair and preventive maintenance training to facilities housing the Institute. Additionally, the branch provided and managed the Command's Physical Security and Key Control Programs. The branch chief instituted weekly meetings designed to define and enhance processing of maintenance actions. Particular emphasis was placed on liaison between the AFIP and the maintenance provider, ie, the installation DPW and individual contractors. The staff has been augmented to provide a project manager and a maintenance supervisor. The year ended without a single accident or customer complaint relating to facility maintenance.

Accomplishments:

1. Performed 100% of the required scheduled services for the Institute's Real Property.
2. 4,779 individual in-house work requests were received and completed.
3. Provided in-depth maintenance and safety training to 13 technicians.
4. Daily preventive maintenance inspections were expanded to include a review of building's automated energy management system.
5. Pre- and post-utility outage meetings were continued to minimize system downtime and enhance customer satisfaction.
6. Overhauled Building 54's south mechanical room steam station.

7. Passed the CAP and the AAALA inspection.
8. Exceptional rating for Command on annual physical security inspection (PSI).
9. Maintained utility systems during installation electrical substation outage.
10. Installation of security doors and cages on mechanical systems.
11. Extended Access Control System for the Buildings 509 and 510.
12. Removed abandoned chilled water systems.

Facilities Projects Branch: Provided total project management support for renewal, site preparation for new equipment, and renovation projects. Provided professional engineering support to Facility Maintenance Branch in support of facility maintenance services. Acted as liaison between project contractors, the contracting agency, and the requesting activity. During 2001, design and construction contracts totaling over \$10M were either completed or awarded. Planning and design for 2002 is currently underway. Construction projects totaling over \$25M were completed during the year: recovering lost space, correcting deficiencies, and providing renovated facilities. The ground floor mechanical systems and fire pumping system upgrade was completed, meeting the Army Surgeon General's mandate to create a safe working environment. Replacement of the AFIP chiller plant, which began with the award of an energy savings contract, was completed. AFIP now has the capacity for stand-alone operation—a crucial capability, as Building 54 will be removed from the central plant operation by FY05.

Accomplishments:

1. Replaced building fire protection system.
2. Replaced the emergency generators.
3. Sealed penetrations in fire-rated barriers.
4. Renewed offices, corridors, and support space of the South Wing, with repair of roof and information systems.
5. Completed renewal of the 5th floor; repair of all mechanical room infrastructures.

Environmental & Grounds Branch: Provided clinical/laboratory grade routine, event, and emergency housekeeping services. Provided on-call custodial/snow removal services to the Armed Forces Institute of Pathology, National Museum of Health and Medicine, Radiologic Pathology classroom, and pathological repositories. Maintained AFIP's roads, parking lots, porches, patios, and grounds within 5 ft of the buildings.

Accomplishments:

1. Responded to 6 major emergency (after-hours) events. (Floods)
2. Performed 4,321 QA inspections to ensure a high level of performance and efficient response.
3. Continuously monitored the progress of work, and made on-the-spot corrections in a timely manner.
4. Implemented a Multilevel Customer Service Team, reducing response time to less than 60 minutes from time of call.
5. Generated 1,337 general maintenance requests to the facility maintenance system.
6. Replaced 1,200 damaged and/or soiled ceiling tiles during a daily maintenance program.
7. Perform cleaning services in support of the 2001 Ash Lecture.
8. Performed 13 postconstruction cleanings.
9. Participated in WRAMC's, Recycling Program.

Services Branch: Provided management for 243 lines of stocked parts, valued at approximately \$257K, in support of the Biomedical and Facility Maintenance Branches. The branch also manages a parts and services budget in excess of \$150K, and an office supply budget of \$12K.

Accomplishments:

1. 223 Purchase Requests were submitted and processed.
2. Processed 321 credit card transactions, valued at over \$150K.
3. Procurement savings in excess of \$11K, resulting from cost negotiation.
4. Ensured 100% accountability for inventory of tools and test equipment.
5. Ensured 100% accountability of stocked parts.
6. Ensured 100% calibration of Institute's TMDE within appropriate time frame.

MATERIEL ACQUISITION DIVISION

The Materiel and Acquisition Division provides services and support relating to expendable supplies and services, including Credit Card, Prime Vendor, and Local Purchase Requests. The division also maintains the ARP Personnel Contracts for the Institute.

Accomplishments:

1. Implementation of the Logistics Technician Program.
2. Implementation of a new Controlled Substance Requisitioning Program.
3. Implementation of a new American Registry of Pathology Service Contract.
4. Commendable ratings during the CLRT inspection.

IMPAC Credit Card: The AFIP Credit Card Program, established in 1996, has practically eliminated the forwarding of small purchase requests to the WRAMC Directorate of Contracting. The Credit Card Program has significantly decreased the process/completion time for ordering and receipt of supplies. IMPAC Credit Cards were used to purchase in excess of \$3.2 million in expendable supplies and services in 2001.

Local Purchase: Local purchase expenditures forwarded to WRAMC Contracting exceeded \$4.1 million in 2001, including an estimated \$2.1 million in contingency supplies for Operation Noble Eagle and an additional \$1.6 million in requirement/standing contract expenditures.

Prime Vendor Contract: The Prime Vendor Contract has streamlined all laboratory and research supply procurements, with a single vendor providing supplies expeditiously at much lower cost. The Prime Vendor Contract was initiated in 1997; expenditures have steadily increased and reached \$2.1 million in 2001.

American Registry of Pathology Contract: The base year for the new ARP Contract was executed in 2001 with 4 option years. The base year for contracted services is valued in excess of \$14 million. The contract contains over 180 contract positions, which support various collaborative enterprises within the Armed Forces Institute of Pathology.

PROPERTY MANAGEMENT DIVISION

During 2001, the Directorate of Logistics reorganized and moved the Biomedical Maintenance Branch under the Property Management Division, enhancing accountability efforts and streamlining medical equipment receipts and turn-ins. The division continued its policy of conducting joint inventories with the hand receipt holders. During 2001, new equipment purchases totaling \$2.3 million were processed, many through the Defense Supply Center, Philadelphia (DSCP).

The Biomedical Maintenance Branch is responsible for approximately 6,000 pieces of medical equipment, and implements, documents, and assesses programs to ensure the continued quality of services provided. The branch also coordinates issues relating to AFIP's periodic scheduled maintenance, unscheduled repairs, and technical inspections, and prepares site surveys for the MEDCASE and newly purchased laboratory equipment throughout the Institute.

The Property Management Division assures clear and definitive communication relative to biomedical issues, procedures, and reporting. The division procures maintenance and related services for the Institute, including processing and follow-up on purchase requests (DA Form 3953) of routine, emergency, and renewal services for medical and nonmedical equipment, construction, repairs and maintenance, rental, leases, lectures, and training; acts as liaison between the vendor, DFAS, and the AFIP customer; and provides information regarding payments, discrepancies in payments, or status on requests received. In 2001, the division processed maintenance contracts valued at \$433,000, and implemented a new contracting source, Prime Maintenance, resulting in significant savings to the Institute.

Accomplishments:

1. The Biomedical Maintenance Branch was moved under the Property Management Division.
2. New equipment purchases totaling \$2.3 million were processed through Defense Supply Center, Philadelphia (DSCP).

3. Excess equipment turn-ins totaling \$2.8 million were processed through the Defense Reutilization Material Office (DRMO).
4. Eight new MEDCASE requirements for \$1.6 million were submitted to USAMMA for approval.
5. The Capital Expense Equipment Program (CEEP) was reenergized, and identified 26 requirements valued at \$1.4 million, awaiting funds.
6. Accomplished 98% of all preventive maintenance on 6,000 pieces of laboratory equipment, exceeding MEDCOM's baseline annual goal of 95%. These services required over 3,409 man-hours.
7. Provided site preps for all MEDCASE items and new equipment requests.
8. By utilizing the satellite shop at the Gillette Building in Rockville, services and customer support continue to improve. Services are provided biweekly for on-site repairs
9. Improved the turn-in procedure to facilitate disposal of equipment to Defense Reutilization Material Office (DRMO), and performed technical inspections of over 900 items.
10. Performed 15 site survey evaluations on laboratory equipment for Facilities Projects managers, resulting in timely installations of equipment.
11. Performed additional preventive maintenance on over 500 microscopes for the Department of Medical Education.
12. Awarded contract to rebuild the tunnel washer in the Department of Veterinary Pathology.
13. 200 Purchase Requests valued at \$433,000 were submitted and processed.
14. Instituted a tracking system to account for each purchase request from the Directorates of Logistics and Resources Management to MEDCOM Contracting Center-North Atlantic (WRAMC), to be processed into a government contract.
15. Used CAPSW to reduce delinquent bills.
16. Received, prepared, signed, mailed, and faxed 471 Receiving Reports (DD Form 250) to DFAS.
17. Initiated a new Prime Maintenance Contract that included 39 medical items, resulting in savings of \$13,000.

MATERIEL RECEIVING AND DISTRIBUTION DIVISION

The division provided support in receiving, storing, distribution, and disposal of supplies and equipment.

Accomplishments:

1. Reduced inventory of the Office Supply Store.
2. Received new equipment and supplies worth \$5.5 million.
3. Warehouse continued receiving and disposing of unserviceable and excess equipment.
4. Implemented a new policy and managed the contract for Corporate Express Office Supply System.
5. Processed and delivered over 300 line items daily.

Hazardous Substance Management: Provided overall direction, guidance, and technical and managerial support in the life cycle management of hazardous substances, using the Hazardous Substance Management System (HSMS).

Accomplishments:

1. Assumed centralized control of the receipt, issue, and tracking of all hazardous substances through consolidation of 5 Hazardous Material Acquisition and Receiving Terminal (HAZMART) sites into one activity.
2. Provided training to newly assigned HAZMART operators to facilitate the tracking of over 24,000 items, utilizing the HSMS database.
3. Corrected expiration date data on approximately 22,000 items entered into the HSMS database during system implementation. This was accomplished after coordinating the

physical inventory of all laboratories and storage areas.

4. Processed approximately 3,000 transactions to reflect gains and losses to the HSMS, as a result of the inventory of labs and storage areas.
5. Reduced processing time for the addition of new items into the HSMS database, from in excess of 30 days to less than 5 days (in most instances).
6. Increased bar-coding of items, at the time of receipt, to a rate of approximately 90%.



Christopher C. Kelly
Public Affairs Director
Date of Appointment—13 January 1991



OFFICE OF PUBLIC AFFAIRS

MISSION

The Office of Public Affairs provides a full range of external and internal communications programs in support of AFIP's essential military and civilian health care mission. The office provides timely information about AFIP's medical expertise in diagnostic consultation, education, and research to the Department of Defense and the worldwide civilian medical community. We accomplish this through the *AFIP LETTER* (distributed to over 18,000 pathologists worldwide) and a variety of proactive media relations programs; by arranging and conducting briefings for national and foreign dignitaries; by coordinating numerous special projects and events; and through proactive community relations programs.

ORGANIZATION

The office consists of a public affairs director, public affairs specialist, and interns.

STAFF

Christopher C. Kelly, MMgmt, BA, Public Affairs Director
(A) Michele R. Hammonds, BA, Public Affairs Specialist

Deployments:

1. February 2001, Seattle, Wash, American Academy of Forensic Sciences, presented paper on media relations at mass fatality incidents—CC Kelly
2. March 2001, Atlanta, Ga, US and Canadian Academy of Pathology Meeting, staffed the AFIP Exhibit—CC Kelly
3. May 2001, Washington, DC, *Frenzy* Conference and Exhibition (Forensic Sciences and Crime Scene Technology), created and staffed AFIP Exhibit—CC Kelly, MR Hammonds.
4. August 2001, Albuquerque, NM, Force Health Protection Conference, delivered AFIP Command Briefing and created/staffed AFIP Exhibit—CC Kelly

EDUCATION

Presentations and Seminars: Office staff gave 3 outside presentations, representing 80 man-hours in 2001. Dates and titles are listed at the end of this report.

OTHER ACCOMPLISHMENTS

1. Oversaw production of the bimonthly *AFIP LETTER*, mailed to over 18,000 pathologists worldwide, including over 5,000 pathologists from Spanish-speaking nations.
2. Prepared exhibits for:
 - US and Canadian Academy of Pathology Meeting, Atlanta, March
 - *Frenzy* Conference, Washington, DC, May
 - Force Health Protection Conference, Albuquerque, NM, August
3. Produced the following special events:
 - Ceremony honoring COL James M. Henry, MC, USA (Ret) "Cross of Honor in Silver" award from Federal Republic of Germany, January 2001.
 - Ash Lecture program, May 2001

Served as master of ceremonies for “Pathology in the New Millennium” conference, December 2001

Committees:

CC Kelly:

1. Chair, 2001 Ash Lecture Planning Committee
2. Chair, 2001 AFIP Organization Day Planning Committee

MM Hammonds:

1. Member, 2001 Ash Lecture Planning Committee
2. Member, 2001 AFIP Organization Day Planning Committee

Public Affairs Reports:

January

Provided commentary to correspondent Patricia Walsh, *Florida Today*, Melbourne, Fla, regarding AFIP endorsement of local Florida laboratory conducting DNA analysis.

Corrected news story in Montgomery County, Md, *Journal/Gazette*, that indicated AFIP involvement in toxicology findings in the death of a Silver Spring, Md, couple whose house exploded on January 1.

Provided contact information to Army Public Affairs for Kathleen Munk, a producer for Canada's *National Morning Show*, wanting information about the Army's new ad campaign, “An Army of One.”

Provided coordination for DOD GEIS Advisory Board (POC Steve Gubenia) requests for CAPT Wagner and Dr. Mullick's attendance.

Wrote and forwarded release of COL James M. Henry, MC, USA (Ret), who was awarded the Cross of Honor in Silver from the Federal Republic of Germany.

Wrote and forwarded release for Black History Month presentation given by AFIP's National Museum of Health and Medicine docent, Jacqueline Still Scott-Burton.

March

Coordinated interview with Indianapolis *Star* reporter and Major Steve Campman, OAFME, on a facial reconstruction conducted by Major Campman that resulted in positive victim identification.

Coordinated interview with reporter Mike Ruane of *The Washington Post* and COL Brion Smith, AFDIL, regarding DNA testing of Korean War remains taken from the Cemetery of the Pacific, Hawaii. Story appeared on the cover of the Saturday, March 24 edition.

Coordinated interview with reporter George Coryell, Tampa *Tribune*, and Dr. Shyh-Ching Lo, regarding mycoplasma findings and correlation to Persian Gulf illness.

April

Assisted writer Mary Roach in obtaining information about forensic investigations for a book she is writing. Provided contacts for her at OAFME and the Museum.

Provided extensive information to *The Washington Post*, reporter Sewell Chan, regarding AFIP's role in performing toxicology testing for the DC Medical Examiner's Office.

Reaffirmed our role as supportive and helpful, and clarified potential misperceptions.

May

Served as AFIP spokesperson in a WTTG, Fox 5, Washington DC story (reporter Paul Wagner) regarding AFIP's forensic toxicology testing role with DC Medical Examiner's Office.

Provided official commentary to *Washington Post* reporter Sewell Chan for his story, “Bodies, Questions Mount in DC,” and clarified AFIP's positive forensic toxicology support for the troubled DC Medical Examiner's Office.

Provided photographs and information to reporter Haeyoun Park of the *Orange County Register* regarding limbal dermoid (a ball of abnormal tissue growth that appears in the eye). Included National Library of Medicine contact information for Park to use as a source for possible statistics.

Rebecca Chertok, *CBS News* in New York, came to the DNA Laboratory to interview staff and shoot the outside of the AFIP Annex. Chertok used building footage to accompany a story about the DNA Lab involved in the MIA identification process.

Provided Matt Pueschel, Editor, *US Medicine*, with information about the Ash Lecture and AFIP

to assist him with an article he wrote regarding the lecture.

Worked with Christine McDonald, Dallas *Morning News*, regarding a story she wrote on a DNA project linking Boston-area schoolchildren with their African ancestors. Provided AFIP position on our potential role in this program and arranged alternate outside scientist to provide commentary.

Provided links to photographs related to the DNA findings in the “Tomb of the Vietnam Unknown” – Air Force Lt. Michael Blassie – to the *Oprah* show.

June

Anja van Oostrom, producer of De Ontkalking, the Dutch Discovery Channel, and a film crew came to the DNA Laboratory to conduct an interview with Dr. Jeffery Taubenberger, chief, Division of Molecular Biology, reference his research on the 1918 Spanish Flu. Oostrom and her film crew also filmed at AFIP’s National Tissue Repository in Forest Glen.

Arranged interview with Fox network producers and Dr. William Rodriguez regarding the case of murder victim Ann Marie Tehan. Dr. Rodriguez successfully identified her remains at the request of the Naval Criminal Investigation Service (NCIS). Fox is producing a series tentatively called *Postmortem*, which looks into how real-life crimes are solved. Coordinated with NCIS.

Arranged interviews with DNA staff for freelance reporter Mike Sledge.

July

Provided information to Shawn Meagher, a professor at Western Illinois University, regarding his request to use photographs as a teaching tool from *Pathology of Infectious Diseases, Volume I*.

Tom Gillet, producer with TransAtlantic Films in London, England, came to the DNA Lab in Rockville, Md, and interviewed staff that conducted DNA tests on the remains of Air Force Lt. Michael J. Blassie, who had been interred in the Tomb of the Vietnam Unknown.

Provided Public Affairs contact information on sailor killed in Philippines to David Miller, CBS Radio News.

Provided historical images of polydactyly (a condition that presents as too many fingers and toes) to Kate Smyres, WGBH in Boston, Mass.

August

Assisted Ann Hock, a National Public Radio producer seeking an outside expert to talk on a proposal to turn Forestville High School into a military academy. Referred to Paul Kasoscas of US Army Cadet Command.

September

Extensive coverage of AFIP’s forensic investigation following the September 11 terrorist attacks included the following:

The Washington Post published articles on September 13 and 14, on the ongoing forensic investigation. Mr. Kelly provided official commentary to reporters Av Goldstein and Mike Ruane. Text available at <http://www.washingtonpost.com/wpdyn/articles/A 27869-2001Sep13.html>

CNN interviewed Mr. Kelly for comments as part of a feature story on forensic challenges related to the Pentagon crash, September 14.

Arranged interview with COL Brion Smith, chief deputy medical examiner and head of the Armed Forces DNA Identification Laboratory, and National Public Radio (NPR) correspondent Chris Joyce, on the challenges of conducting a DNA identification.

Provided official commentary to Debbie Funk, Times News Service, on the identification process at Dover. Coordinated interview for her with COL Smith and his deputy, James Canik.

Provided official commentary to Joyce Price, Washington *Times*, for her article entitled “Specialists use DNA samples to identify the dead.”

Provided key background information for AJ Hostetler, Richmond *Times-Dispatch*, for her story entitled “Victims’ deaths deemed homicides.”

Provided official commentary to Gwynneth Shaw, Pentagon correspondent for *The Orlando Sentinel*, for her story on forensic challenges related to the attack. <<http://www.orlandosentinel.com/news/nationworld/orl-pentagon091601.story>>

Provided official commentary to Jeremy Maier, Chicago *Tribune*, for a September 13 story on the identification process:

<<http://www.chicagotribune.com/news/nationworld/chi-0109130353sep13.story?coll=chi%2Dnewsnationworld%2Dhed>>

Worked extensively with correspondent Susan Dentzler from *The News Hour with Jim Lehrer* for a story that appeared on Friday evening, September 21, on the forensic challenges surrounding the Pentagon case. She interviewed COL Brion Smith and former chief medical examiner Dr. Charles Stahl for the piece. Audio available at: <<<http://www.pbs.org/newshour>>> Click on Health Spotlight. Open "Identifying Victims." Click on and listen to Real Audio (Identifying Those Lost 00:07:29 minutes), then open and print Extended Excerpts.

Provided commentary to Chuck Lindell, Cox News Service, about AFIP's findings. His story ran in newspapers in Atlanta, Austin and Dayton, among others, as well as through the *New York Times* wire service.

Encouraged coverage of AFIP anthropologist Paul Sledzik and his outstanding work as a regional team commander for the Disaster Mortuary Operational Response Team (DMORT), assigned to identification operations in Somerset, Pennsylvania. Successfully pitched opportunity for reporter Cindy Lash, Pittsburgh *Post-Gazette*, to provide extensive coverage of DMORT and of AFIP's role. Story available at this site: <http://www.post-gazette.com/headlines/20010925sledzik0925p3.asp>.

Provided extensive background information for Bob Boyd, science writer, Knight-Ridder News Service, a national news service with papers in Philadelphia, Orlando, and San Francisco, among others. Arranged for him to come to AFDIL and speak with COL Smith.

Provided official commentary to Nancy Shute, *US News and World Report*, for a story that appeared on identification methods. Available at <http://www.usnews.com/usnews/issue/010924/misc/24heroes.b.htm>

Provided official commentary to Nora Ashredi, a reporter from the Annapolis, Md- based Capital News Service, who also interviewed DNA scientist Demris Lee on the work being done at AFDIL.

Provided official commentary to Julie Buckles, Genome News Network, about DNA analysis in these cases.

Provided official commentary to Sarah Koenig, Baltimore *Sun*, about the process involved with DNA identification.

Provided official commentary to Craig Palmer, American Dental Association *News*, on AFIP's forensic dental identification successes at Dover.

Provided official commentary to reporter Alexandra Whitsy, Dallas *Morning News*, on identification progress.

Provided historic photos of doctors with patients to producer Phyllis Oetgen.

Provided contact information to Debbie Funk of the *Army Times* regarding CILHI Joint Task Recovery Operations.

Sara Potts, *Washington Week in Review* producer, interviewed AFIP's Allison Director-Myska, research biologist in the Department of Cellular Pathology, for her personal response to the September 11 terrorist attacks.

October

Additional September 11 coverage:

Provided official commentary to a Fredericksburg, Va, *Free Lance-Star* reporter for article on identification of September 11 victims, entitled "Identifying Victims is Painstaking Work."

Developed story idea for Associated Press correspondent Stephen Manning, resulting in wire coverage of AFDIL, entitled "Sept. 11 is a huge task for DNA experts."

Provided commentary to Sarah Scott, Booth Newspapers, on identification efforts.

Provided commentary to Damien Whitford, *Times of London*, on probability of identifying terrorists' remains.

Provided commentary to John Gelb, Philadelphia *Inquirer*, on the morality of identifying and burying terrorists' remains.

Provided commentary to Ramona Smith, Philadelphia *Daily News*, on difficulties in identifying terrorists' remains. http://dailynews.philly.com/content/daily_news/2001/10/10/local/BODY10C.ht

Assisted Bill Schultz, *Chemical and Engineering News*, with finding a subject-matter expert,

regarding career opportunities for chemists in forensic science. Shultz interviewed AFIP's COL Aaron Jacobs, chief, Division of Forensic Toxicology.

November

Additional September 11 coverage:

Provided official commentary to Frank Murray, *Washington Times*, on probability that not all Pentagon remains would be identified.

Coordinated release of information on forensic identification findings in September 11 Pentagon attack. Provided official commentary to *Washington Post* reporter Steve Vogel for his article, "Remains Unidentified for 5 Pentagon Victims."

Provided official commentary to Debbie Funk, Times News Service, for her feature story on the same subject.

Liz Magno, Hoggard Films, regarding AFIP's Dr. Jeffery Taubenberger, chief, Division of Molecular Biology.

Provided videotape to Tom Gillet, producer with TransAtlantic Films in London, England, regarding DNA identification.

December

Provided official commentary to reporters Bill Broad, *The New York Times*, and Steve Fainaru, *The Washington Post*, on AFIP's role in anthrax testing.

Provided contact information to Adam Dubrowa, Round About Productions, regarding an Army recruiting message he needed for a National Geographic Special on the history of the Pentagon. Referred Dubrowa to Paul Boyce, marketing chief, Army Public Affairs.

Provided news clippings and a videotape to reporter, Tony Hopfinger, *Anchorage Daily News*, about Dr. Jeffery Taubenberger's research on the 1918 Spanish Flu.

Coordinated interview for AFIP's Dr. Jeffery Taubenberger, chief, Division of Molecular Biology and Tony Hopfinger, *Anchorage Daily News*, regarding the Alaska tie to the 1918 flu.

Visits and Briefings: The office coordinated the following visits and briefings in 2001:

1. BG Lester Martinez, Commander, USACHPPM.
2. Presented command briefing to Council of Colonels
3. LtGen Menzies, Surgeon General, United Kingdom, briefing and tour.
4. USAMEDCOM Manpower in-briefing, provided command briefing.
5. US Air Force Attorneys, US Air Force Medical Law Course, consultants, Andrews Air Force Base, briefing and tour.
6. Provided command briefing to CSM Aplin, NARMC.
7. Rappahannock High School students, Advance Biology Class, Washington, Virginia, briefing and tour.
8. Doctors Yo Kato and Yanagisawa, Department of Pathology, Cancer Institute, Tokyo, Japan, briefing and tour.
9. Chaplain (LTC) James Helton, Air Force Reserve, Pittsboro, NC, Briefing and Tour.
10. Army reserve veterinary pathologist Dr. Ken Stein, command briefing.
11. Kuwait Surgeon General, command briefing.
12. Jackson Foundation logistics group, command briefing.
13. South African Surgeon General's visit, command briefing and tour.
14. European Surgeon Generals' visit, command briefing and tour.
15. Rock Creek Terrace High School students, job training program, Washington, DC, tour.
16. University of Southern Mississippi student forensic group, Hattiesburg, Miss, briefing and tour.
17. Dr. RF Chinoy, department head, Pulmonary and Mediastinal Pathology, National Cancer Institute of Japan, Tokyo, briefing and tour.
18. Knoxville High School Science Club, students, Knoxville, Iowa, briefing and tour.
19. National Youth Leadership Forum, high school students, Washington, DC, briefing and tour.
20. Briefed members of US Military Cancer Institute about AFIP capabilities on behalf of

Director.

21. Department of the Army Public Affairs, federal interns, Washington, DC, briefing and tour.
22. Provided briefing and tour for Australian histopathologist Jeanette Thurley.
23. Arranged visit for and escorted Enrique Mendez, MD.
24. Provided command briefing to LtCol Barnett of USAF element, Andrews AFB, Md.

PRESENTATIONS:

1. February 2001, Seattle, Wash, American Academy of Forensic Sciences Annual Meeting, "Media relations following mass fatality incidents."
2. May 2001, Bethesda, Md, USUHS, Forensic Anthropology Course, "Media relations following mass fatality incidents."
3. August 2001, Albuquerque, NM, Force Health Protection Conference, "The AFIP's readiness missions."

PUBLICATIONS

1. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. February 2001; 159.
2. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. April 2001; 159.
3. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. June 2001; 159.
4. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. August 2001; 159.
5. Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. October 2001; 159.
6. Kelly C, Mills JP, Hammonds M, eds. *AFIP Update*. March 2001.
7. Kelly C, Mills JP, Hammonds M, eds. *AFIP Update*. June 2001.



Bradley A. Lieurance, MAJ, MS, USA
Director
Date of Appointment —4 June 2001



DIRECTORATE OF RESOURCES MANAGEMENT

MISSION

The Directorate of Resources Management provides financial and human resource management, analysis, information, advice, and assistance to the AFIP Director and staff, the Board of Governors, and the Scientific Advisory Board.

ORGANIZATION

The directorate is organized into 3 divisions:

- Civilian Personnel Division
- Financial Management Division
- Manpower and Management Division

STAFF

Bradley A. Lieurance, MAJ, MS, USA, Director
Shannon Jackson, HM3, TDY Coordinator

Civilian Personnel Division:

Vaughany Casey, Chief
Joyce Jones, Program Assistant
Dexter Mallory, Liaison Pay Assistant

Financial Management Division:

Katie L. Askew, Chief
Mary L. Ward, Budget Assistant
Reginald Wilkes, Budget Assistant
Debra Jones, Budget Assistant

Manpower and Management Division

Tom Tamanaha, Management Analyst
Rosalyn Payne, Management Analyst

CIVILIAN PERSONNEL DIVISION

The Civilian Personnel Office services over 300 Army Government Service employees working at the AFIP. The Personnel Office is a liaison office to the Civilian Personnel Advisory Center (CPAC), WRAMC, and to the Civilian Personnel Operations Center (CPOC), Rock Island Arsenal, Ill. In 2001, this office endured the closure of the servicing Civilian Personnel Office (CPOC) at Ft. Belvoir and the transfer of those responsibilities to Rock Island Arsenal, Ill. Additionally, the Modern Defense Civilian Personnel Data System (DCPDS) was developed to replace other civilian personnel data systems, including the legacy system. As a result, the processing time for civilian personnel actions has improved significantly. The Civilian Personnel Office provides customer service and general administrative service to all civilian

personnel assigned to the Institute. Routine services constitute civilian personnel actions, civilian payroll, evaluations, and award processing.

MANPOWER AND MANAGEMENT ANALYSIS DIVISION

Mr. Tom Tamanaha, management analyst, led the AFIP through the March Manpower Requirements Validation Study (Automated Staffing Assessment Model) conducted by MEDCOM, and was successful defending current AFIP requirements and justifying workload, enabling AFIP to gain an additional position. He was busy throughout the year structuring and documenting the new work centers within AFIP, establishing the Patient Safety Center and the Medical Mortality Surveillance Registry. He also assisted the Department of Cellular Pathology and Genetics in the restructuring of its elements. Ms. Rosalyn Payne, management analyst, reviewed and managed AFIP's Inter-Service Support Agreements (ISSA) and Memorandums of Understanding/Agreement (MOU/MOA). Ms. Payne's review of some 238 agreements ensured support would continue to the Department of Defense; federal, state, and local governments; and many private institutions. Ms. Payne continued to revise step-by-step instructions on how to negotiate, coordinate, and secure approval for agreements. She also developed an alternative cost analysis worksheet for departmental use when writing proposals for collaborations with other agencies.

FINANCIAL MANAGEMENT DIVISION

2001 was a year of changes within the Financial Management Division (FMD). In September, FMD lost one of its budget assistants, placing additional pressure on the remaining budget assistants to monitor its obligations and stay within its fiscal responsibilities, while maneuvering for additional funds in support of Operations Noble Eagle and Enduring Freedom. FMD captured all costs associated with the occurrences of September 11, 2001, enabling AFIP to garner an additional \$904,000 in end of fiscal year funding. Also, during a September installationwide power outage, the decision was made to move FMD back into Bldg. 54. Despite these changes, FMD orchestrated a successful yearend closeout, executing 100% of its \$61.4 million in Operations and Maintenance, Army (OMA) and Defense Health Program (DHP) funding, and an additional \$8.4 million with the Health Facilities Planning Agency for the renovation of Bldg. 54. Additionally, efforts to energize the reimbursables resulted in AFIP realizing a \$300,000 increase in that program.

FY01 FUNDING (MILLIONS)

DHP Funding Received for FY01	
Core Dollars	\$39,759,000
Inflation Increase	\$1,618,000
Core Decrement	\$(823,000)
DHP Funding Available for FY01	\$40,554,000
DHP/OMA Funding Received for FY01	
DNA ACSPEP (OMA Fenced)	\$5,567,000
Gillette Lease	\$2,500,000
DNA (DHP Funds)	\$2,250,000
Real Property Maintenance/Minor Repair	\$1,844,200
Persian Gulf Illness (PGI)	\$1,350,000
ACTUR Tumor Registry	\$1,200,000
CAP Contract	\$923,707
Counter Narcotics Program (OMA Fenced)	\$748,000
VID Exhibits	\$71,000
Noble Eagle	\$500,000
MEDCOM Mktng Expenses	\$106,000
DHP Funding Available for FY01q01	\$17,059.907
Reimbursables - Actual	\$3,767,221
Total Funds Distributed and Executed	\$61,381,128



Ronald H. Suter
Safety and Occupational Health Specialist
Date of Appointment — 6 March 1994



OFFICE OF SAFETY MANAGEMENT

MISSION

The Office of Safety Management was established in March 1994, to develop and manage a Safety Program as outlined in Army Regulation 385-10, the *Department of the Army Safety Program*. This office monitors guidelines set forth by the Environmental Protection Agency (EPA), Occupational and Safety Health Administration (OSHA), and the College of American Pathologists (CAP); serves as AFIP liaison with US Army Medical Command (MEDCOM) Safety Office; coordinates with the following Walter Reed Army Medical Center (WRAMC) departments—Safety Office, Occupational Health, Industrial Hygiene, Health Physics, Department of Public Works, and the Fire Department. This office also serves as a member of many safety-related committees; investigates all on-the-job injuries; and maintains a reference library of EPA, OSHA, DoD, and local safety-related publications. In keeping with the DoD goal of pollution prevention, this office operates five distillation units that recycle alcohol, xylene, and formalin back into the AFIP laboratories.

STAFF

Ronald H. Suter – Safety Director
(A) Brenda L. Smith – Safety Manager

ACTIVITIES

The Office of Safety Management currently sits on the following committees: AFIP Safety Committee; AFIP Biosafety Committee; AFIP Quality Assurance Committee; AFIP Space Committee; Installation Safety Committee; Installation Hazardous Substance Management System (HSMS) Committee; Environmental Overwatch Training Subcommittee; Installation Plans and Implementation Subcommittee; and Installation Asbestos Management Team.

The Office of Safety Management has sole responsibility for disposal of all AFIP's hazardous waste to the WRAMC Hazardous Waste Bunker, which includes making many entries in the Hazardous Substance Management System (HSMS), a computerized tracking system mandated by DoD. This system tracks hazardous substances from receiving from the vendor through disposal.

The Office of Safety Management presents all of the annual training required by OSHA (hazardous communication, bloodborne pathogen, fire extinguisher training) to the staff of AFIP.

The Office of Safety Management has been tasked with one large new mission, the Waste Management Program, which includes the distillation of xylene and alcohol, management of regulated medical waste, monitoring of hazardous (chemical) waste, and monitoring of the silver recovery program. In November 2001, AFIP received a new piece of equipment that recycles formalin. We are in the process of evaluating this equipment. AFIP's current alcohol and xylene recycling equipment has resulted in great cost-savings in the past few years.

Collaborations:

From January 2001 through November 2001, the WRAMC Industrial Hygiene Office provided the following industrial hygiene management, oversight, and services to AFIP. Sandra L. Witek-Eames was the industrial hygienist assigned to AFIP. She has since been reassigned to the Walter Reed Hospital, and Mr. Darryl White has replaced her.

1. Completed inspections of 55 areas covering over 100 rooms, for a total of over 1,200 hours.
2. 205 worksite visits, resulting in 30 written reports and 117 Health Hazard Information Management System (HHIMS) evaluations.
3. The ongoing development of the industrial hygiene program at AFIP.
4. Proposed protocols on procedures involving filter changing on automated laboratory machines and nonvented laboratory hoods, ergonomic program elements, and indoor air quality issues.
5. AFIP asbestos abatement operations affecting AFIP employees.
6. Industrial hygiene design review for renovation/new construction.
7. Proper operation of vented chemical hoods.
8. Proper use of engineering and work practices to keep occupational exposure to contaminants from occurring.
9. Proper use and maintenance of personal protective clothing and respirators.
10. Evaluations of DLAM areas to meet accreditation requirements of the AAALAC.
11. Evaluations of laboratory areas to meet accreditation requirements of CAP.
12. Evaluations of all AFIP facilities to meet OSHA, EPA, ANSI, and ASHRAE standards and guidelines for occupational health.
13. Personnel and environmental air and bulk sampling for OSHA-regulated carcinogens, including asbestos and formaldehyde, involving 38 air and bulk samples.
14. Evaluation of use and work practices involving hazardous and toxic chemicals such as xylene, resulting in 44 air-sampling surveys including 456 direct-reading measurements.
15. Ergonomic surveys involving laboratory ergonomic issues such as pipette use and microscope use and office ergonomic issues such as VDT use.
16. Workplace noise surveys, including 114 measurements with evaluation of the hearing conservation program.
17. Evaluation of room general mechanical ventilation to ensure room air changes and pressure differentials are in accordance with OSHA, ASHRAE, and military standards and guidelines, resulting in 48 surveys involving about 2,500 measurements.
18. Laboratory chemical hood testing and certification of over 50 units to ensure flows that meet OSHA, ANSI, and ACGIH guidelines.
19. Indoor air quality evaluations involving odors, allergens, temperature, and relative humidity.
20. Education and training, including 222 consultations and 64 hours of AFIP employee training.

NATIONAL MUSEUM OF HEALTH AND MEDICINE





Adrienne Noe, PhD
Director
Date of Appointment — September 1995



NATIONAL MUSEUM OF HEALTH AND MEDICINE, AFIP

MISSION AND ACTIVITIES

The NMHM promotes understanding of medicine, past, present, and future, with a special emphasis on American military medicine. It inspires interest in personal and public health. As the nation's museum of health and medicine since 1862, we aggressively identify, collect, and preserve important resources to achieve a broad agenda of innovative exhibitions, educational programs, and scientific, historical, and medical investigations.

To achieve this, we promote the responsible use of the nation's National Historic Landmark collection by continuing to catalog the collections to record detailed information about the holdings and edit records to make databases available for the Internet, which will allow the collection to be more accessible to researchers. We are continuing to cultivate ties with professional medical societies and with the Department of Defense to assist in collecting artifacts significant to the history of the practice of medicine and the evolution of medical technology, emphasizing military medicine. Finally, we are continuing to collect, preserve, and interpret modern examples of significant medical technology to document the history of the practice of military medicine and the evolution of medical technology to ensure the continued development of the National Museum of Health and Medicine, AFIP, as a national and international resource for the military medical community, professional health care workers, and the general public.

In so doing, we emphasize the Museum's focus on critical public and military health issues, the importance of the Museum as a bridge between biomedicine and the general public, the Museum's role in helping to recruit the health professionals of tomorrow, and the Museum's research programs in medical medicine, medical imaging, and other areas.

ORGANIZATION

The Museum is organized into 3 areas: Office of the Director, Public Programs and Exhibitions, and Collections and Research

OFFICE OF THE DIRECTOR

STAFF

Adrienne Noe, PhD, Director
Donna R. White, Administrator
Steven Solomon, Public Affairs
(D) Erin Roy, Public Affairs Assistant
Theresa Butler, Staff Assistant
Cynthia Muldrow, Administrative Support Assistant
(A) Rachel Coker, Public Affairs Assistant
(D) Victoria Cosner, Special Events and Facilities

- (A) Maurice Young, Special Events and Facilities
- (A) Shelly Currie, Visitor Services Representative
- Nicole Gunter, Visitor Services Representative
- Stacie Bland, Visitor Services Representative
- Melba Stewart, Visitor Services Representative

The Office of the Director oversees the general activities and governance of all aspects of the Museum and provides policy, technical, and scientific direction. This office directs all activities for the site, facility, and programs of the Museum, as its activities evolve. Activities handled within the office are external and internal relations, governmental affairs, press and public relations, and institutional development. The office works with print and broadcast media, congressional offices, and local, national, and community organizations to encourage contact with the AFIP's National Museum of Health and Medicine. The administrative support staff continue to improve the quality of support provided to the departments within the Museum. This administrative group provides a variety of management services essential to the operation of the Museum in the areas of budgeting, manpower/personnel, contract administration, and organizational management. The office provides general supervision of the Office of Public Affairs, the Division of Programs and Exhibitions, and the Division of Collections and Research. The Office of the Director communicates and coordinates with the American Registry of Pathology (PL94-361) and numerous public and private organizations for institutional development. The Director of the National Museum of Health and Medicine is a member of the AFIP Executive Committee and an Associate Director of the AFIP.

FACILITIES AND SPECIAL EVENTS

The Museum's Facilities and Special Events Department, in conjunction with the AFIP Directorate of Logistics, offers support and consultation to the National Museum of Health and Medicine (NMHM) in the following areas: physical security, storage, movement, and maintenance; repair and accountability of materials; housekeeping; exhibit upkeep and maintenance; and waste collection and disposal. It also notifies the Provost Marshal of Museum visitation onto the Walter Reed Army Medical Post. This department serves as NMHM liaison with the AFIP Office of Safety Management; maintains an inventory of all hazardous chemicals located within the Museum; serves as a member on many safety-related committees; and investigates safety issues concerning staff and visitors.

During 2001, the Facilities Department:

1. Assisted in disassembling temporary exhibits
2. Repaired and painted exhibit space for new exhibits
3. Renovated assigned space for a future Museum gift shop
4. Prepared service requests to the AFIP Logistics to insure that the Museum met safety and fire code regulations

Special Events Branch: This branch supports the NMHM in its mission to serve the Armed Forces Institute of Pathology, Walter Reed Army Medical Center, and the surrounding community by hosting and scheduling events such as the Annual National Student Leadership Conference, Foreign Joint NCO Association Annual Meeting, DoD Global Emerging Infections Systems Reception, Cameroon American Medical Association Conference, the Department of Medical Education's Medical Education Course, and the very prestigious Annual Ash Lecture.

The Special Events Branch of the Facilities Department has written an SOP for Museum meetings and receptions, which is given to the point of contact for the event. This office staffs and secures each event with visitor service representatives who are trained in the art of customer service, and offers a list of specialty caterers (DoD certified) familiar with the policy and procedures of the Museum. The Special Events Branch will also assist in supplying the presenters with their audio-visual needs.

During 2001, Special Events hosted 5 major events, totaling 1,535 participants in all.

PUBLIC AFFAIRS

During 2001, the Museum's Public Affairs Office continued marketing efforts and strengthened relationships within the business, museum, and tourism communities to increase awareness of the Museum throughout the Washington, DC, metropolitan area, and among tourism and military audiences. There are various community organizations in the area, and the Museum maintains a relationship and cultivates ties with as many area grassroots and cultural-based organizations as possible, in order to better position itself as a significant historical, community, and cultural attraction.

The Museum remained an active member of the DC Heritage Tourism Coalition, a consortium of more than 80 cultural and community organizations in Washington, DC, with a common goal to strengthen the image and the economy of the District of Columbia by engaging visitors in the diverse heritage of the city beyond the National Mall and monuments. The Museum received prominent recognition in the DC Heritage Tourism Coalition's publication, which provides an inventory of all DC cultural attractions by neighborhood and theme. The Museum benefits from other efforts organized through the DC Heritage Tourism Coalition, such as collaborative marketing materials, a joint product-licensing program, and a neighborhood heritage trail tour along the Georgia Avenue corridor.

The Museum also increased its ties with the DC Convention and Visitors Association, the District of Columbia Chamber of Commerce, and the Historical Society of Washington, DC.

The Museum remained a designated site on the Civil War Discovery Trail, which was named 1 of 16 National Millennium Trails in the United States by the White House. As a result, the Museum received recognition in marketing and promotional materials produced by the Civil War Trust, at no cost.

Marketing:

Working closely with the Museum's Public Programming Department, Public Affairs placed an emphasis on promoting programs and workshops to the local community to raise awareness of the Museum's educational offerings and to increase program attendance.

Print advertisements for the Museum and its exhibits and programs appeared in:

Families Magazine (monthly circulation: 100,000) distributed in the Washington, DC, area to public and private schools, libraries, Barnes and Noble, hospitals, doctors' offices, Fuddruckers, Zainy Brainy, etc.

Museums Washington Magazine (quarterly circulation: 150,000) distributed to concierges and in rooms at more than 80 hotels in the Washington, DC, area.

Washington Flyer (bimonthly circulation: 180,000) distributed at Ronald Regan National and Dulles International Airports.

Where Magazine (monthly circulation: 100,000) distributed to 128 hotels in Washington, DC, Virginia, and Maryland, such as Four Seasons Hotel, and Hay-Adams Hotel, and more than 30 embassies.

As an element of the AFIP, the Museum also reached the local military community through print advertisements in the 9 newspapers of Comprint Military Publications, distributed at the government installations within the National Capital region: *Pentagram* (weekly circulation: 27,000); *The Beam* (weekly circulation: 15,000); *The Journal* (weekly circulation: 10,000); *Henderson Hall News* (weekly circulation: 5,500); *Gazette* (weekly circulation: 37,000); *Stripe* (weekly circulation: 10,000); *Standard* (weekly circulation: 6,000); *Trident* (weekly circulation: 11,000); and *Sea Services Weekly* (weekly circulation: 10,000), reaching a combined circulation of more than 130,000.

A special effort was made during 2001 to promote "The Changing Face of Women's Health," an exhibition devoted exclusively to women's health issues, with interactive and multimedia techniques, companion programs, educator outreach materials, and a complementary Web site— www.whealth.com. WUSA-TV Channel 9 produced and broadcast :30- and :15-second "commercials" that ran at will and Bonneville International Corporation (radio stations WGMS-FM, WTOP-FM and AM, and WWZZ-FM) produced and broadcast a spot 676 times – all at no charge to the Museum. There was also significant follow-up coverage of the exhibit's grand opening gala, which involved coordination with personnel in the DoD; Army, Navy, and Air Force; the US Surgeon General, etc.

Media Coverage:

The Museum increased distribution of press releases to the media in 2001, resulting in increased media exposure. More than 250 stories and news brief items were printed in 2001, in publications with a combined circulation of 21.7 million. (Source: Bacon's Information Clip Review.) This coverage appeared in local, national, and international publications, as well as on TV and radio stations. Some highlights are:

"Make no bones about it, you'll leave this museum thankful that, despite the mistakes of the modern medical world, we have come this far. The very existence of the National Museum of Health and Medicine has been instrumental in the evolution of medicine as we know it today."

— *Washington Woman*, December 2001

"Best Museums Outside the Mall: ... medical mavens can examine the authentic anatomical displays at the National Museum of Health and Medicine, including a smoker's blackened lung, a touchable human brain, and fragments of Lincoln's skull."

— *Cooking Light*, October 2001

"The museum isn't big, but it's informative, with a fascinating exhibit on military medicine during the Korean War and fragments of Abraham Lincoln's skull on display. Particularly interesting: the Civil War wounds exhibit."

— Scripps Howard News Service, 9/9/2001

"In an exhibit titled "Blood, Sweat, and Saline: Combat Medicine in the Korean Conflict," the National Museum of Health and Medicine (www.natmedmuse.afip), in Washington, DC, shows how military nurses, medics, and surgeons struggled to make the art of healing keep pace with never-ending advances in the art of killing...The National Museum of Health and Medicine is an element of the Armed Forces Institute of Pathology."

— *American Heritage*, September 2001

"What do Abraham Lincoln, General Daniel Sickles, and Private W.F. Faucette have in common? The answer is: besides all connecting with a certain destiny at Gettysburg, parts of their bodies also reside at the National Museum of Health and Medicine in Washington, DC"

— *The Gettysburg Experience*, August 2001

"The most visited exhibit at Washington's National Museum of Health and Medicine is that of the shattered leg bones of a Civil War general. The display was also popular with the leg's owner, Union Maj. Gen. Daniel E. Sickles, who visited it for years on the anniversary of the amputation, July 2, 1863."

— *Washington Post*, 7/12/01

"... older kids and adults will be fascinated. Displays include the bullet that killed President Lincoln, and the probe used to find it, a spinal-cord section with vertebrae from the spine of John Wilkes Booth, and the world's most comprehensive collection of microscopes."

— *Ladies' Home Journal*, May 2001

"There's no other museum in our nation's Capital quite like it. Perhaps maybe the world... Many visitors walk away from the center awestruck after viewing its comprehensive anatomical collection. After all, every bone or organ displayed in the museum once was part of a breathing human being."

— *Commuter Weekly*, 4/22/01

"Ranging from fun to funky, these alternative museums offer something-for-everyone variety. Students at the health and medicine museum were awed by the sight of a life mask of Abraham Lincoln, the assassin's bullet that killed him and seven tiny fragments that the slug dislodged from his skull."

— Asbury Park Press and *The Home News*, 3/25/01

"Many guidebooks suggest travelers set aside a week to see the Smithsonian. Rare is the guidebook that suggests another hour be set aside to see the giant hairball, gargantuan obstructed colon or severed, elephantiasis-engorged leg at the nearby National Museum of Health & Medicine."

— *Boston Herald*, 2/11/01

"Barbie is the impossible ideal. Many women secretly have known this since childhood, but at the exhibit "The Changing Face of Women's Health" at the National Museum of Health and Medicine, it is spelled out in large display type: Barbie, if she were real, would measure 38-18-28."

— *Washington Times*, 2/11/01

"Filled with fascinating — and decidedly gross — artifacts, displays and items include a lung-comparison area where you can check out the differences in the lungs of a smoker, a coal miner and a city dweller; a human brain you can touch and a giant hairball in the shape of the human stomach it came from."

— *Baltimore Sun*, 2/1/01

"Officials at the National Museum of Health and Medicine in Washington, DC, are confident that their hair from Lincoln is authentic. The museum traces its origins to the Civil War, when it was established as the Army Medical Museum and received soldiers' amputated body parts sent from the field for research."

— *The Press-Enterprise*, 2/8/01

"Along with the bullet that killed him, bony bits of Lincoln himself are exhibited at the National Museum of Health and Medicine. This collection of medical artifacts and oddities -

everything from early microscopes to an historic hairball - is located near Walter Reed Army Medical Center in northwest Washington.”

— Cox News Service, 1/17/01

“What’s Washington’s best-kept secret? ... the National Museum of Health and Medicine.... With one of the oldest and most important medical collections in the country, the museum features myriad microscopes as well as occasional showings of such curiosities as John Wilkes Booth’s spine.”

— *Diversions*, January 2001

“At the National Museum of Health and Medicine, for instance, you can see the bullet that killed Abraham Lincoln, watch a live medicinal leech contract and stretch like a rubber band, or handle a dried lung. (Two lungs, actually, one of a smoker and one of a nonsmoker. They are very popular with school groups.)”

— *News Tribune* (Central Ill.), 1/3/01

Also, in 2001 the Museum’s staff met with and/or was interviewed by media representatives for stories or documentaries on:

- *America’s Treasures*
- C-Span
- Discovery Channel
- Discovery Health Channel
- Discoveryhealth.com
- Fox News Channel
- Granada TV
- Learning Channel
- History Channel
- National Geographic Channel
- *Ripley’s Believe It or Not*
- Spiegel TV
- York Films of England

Museum Newsletter:

The Museum created a newsletter, “Flesh and Bones,” which was published 8 times during 2001, ranging in size from a single sheet to 6 pages. In addition to internal distribution to the AFIP departments, the newsletter was distributed to the Museum’s mailing list, which includes the media, schools, libraries, and visitors who have signed up to receive information by mail. It contains articles researched and written by the Museum staff about new exhibits, special programs, recently acquired artifacts, loans to other museums, etc.

The World Wide Web Site:

The Museum Public Affairs Office was principally involved in expanding content on the Museum Web site to include information about new temporary exhibits, such as “Research Matters: Environmental and Toxicological Effects of Arsenic” and “American Angels of Mercy: Dr. Anita Newcomb McGee’s Pictorial Record of the Russo-Japanese War, 1904.” In addition, the Museum worked with its Webmaster to post information about upcoming programs and events in a timely manner. The Museum also continued to pursue opportunities to be added to other museum and tourism Web sites. According to the Web site’s traffic report, provided by Web Trends, the Web site is averaging more than 6,000 hits daily, with the average unique viewer looking at 5 different pages for more than 8 minutes during each visit to the Web site.

Sites linked to the Museum’s Web site in 2001 include:

The Museum of the Rockies at Montana State University at <http://www.montana.edu/wwwmor/about/links.html>

The National Museum of Civil War Medicine in Frederick, Md, at www.civilwarmed.org/links.cfm

Pharma-Lexicon International in the United Kingdom at www.pharma-Lexicon.com

Special Forces Search Engine at www.sfahq.com/Memorials_and_Museums

US Army Military History Institute in Carlisle Barracks, Pa, at <http://carlisle-www.army.mil/USAMHI/OtherSites.html>

US Army Quartermaster Museum in Fort Lee, Va, at www.qmmuseum.lee.army.mil/links.html

US Army Warrant Officer Career Center at www.leavenworth.army.mil/wocc

UNESCO Archives Portal at

<http://www.unesco.org/webworld/portal> archives

Walter Reed Army Medical Center at www.wramc.amedd.army.mil

The Museum also ensures accurate and timely information is provided to online Web site information resources, such as:

DC Chamber of Commerce at http://www.dccchamber.org/visiting/pl_pt_museum.asp?whatpage=plan&whatpage2=point&whatpage3=museum

DC Heritage and Tourism Coalition at www.dcheritage.org/calendar2532/calendar.htm

DC Visitor Information at <http://www.dcvisit.com/calendar>

Museums of the World in Germany at www.museum.com

Global Museum at www.globalmuseum.org

DEPARTMENT OF PUBLIC PROGRAMS AND EXHIBITIONS

MISSION/ORGANIZATION

The division directs and coordinates operational and interpretive components of the Museum. This includes administration, exhibitions, public programs, educational tours, facilities use, and related activities. Division staff worked with governmental agencies, professional associations, museums, and individuals to develop interpretive strategies that promote greater public awareness of contemporary and historical perspectives on disease, public health, and health education.

STAFF

Vacant, Assistant Director, Public Programs and Exhibitions

Vacant, Supervisory Exhibits Specialist

Jeffrey Mitchell, MA, Visual Information Specialist

Janet Melson Burns, MA, Public Programs Coordinator

(A) Sandra V Saluke, MAT, Educator

(D) Jeanne Levine, Tour Program Manager

Public Programs Division:

Docents:

Sal Battiata, MD; Ed Beeman, MD; Catherine Bonomo; Merlin Brubaker, MD; Marina Bruner; Jacqueline Burton, MAT; Edward Byrdy; Ashwini Chavan, MD; James DePersis; Peggy Garner; Jason Geiger, MD; Ira Green, MD; Marjorie Hughes, M.D.; Regina Hunt; Albert Jacobs, MEE; Marianna Jessee, MS, MGA; Carol Jorgensen; Gail Katz; Richard Lei, DDS; LaVerne Madancy, MA; Kay McMahon; Richard Mulvaney, MD; Sol Pargament; Colleen Pettis, MS; Anne Pollin; Edward Rea, MD; Anthony Rondello; Enid Rosen; Karen Sanders, MS; MSGT Christian Sepulveda; George Sharpe, MD; Stephen Schiaffino, PhD; Shen Sung, MD; Carolyn Whittenberg, MSN, Alan Winshel, MD; and Rose Zimmerman

VISITOR SERVICES

Attendance:

Attendance at the Museum and its programs for 2001 was *48,728. This number includes attendance to regular and special exhibitions, public programs, and regular Museum programs. Attendance also includes participants attending special events, such as receptions for organizations with missions related to those of the Museum, meetings or courses offered by other divisions of the AFIP, and meetings or training sessions. Other special audiences include students in off-site programs at which NMHM staff made significant proportions of presentations, and other public and professional venues.

*The September 11th terrorist attacks impacted our attendance this year. As a result of the attacks, WRAMC instituted ThreatCon Charlie, which restricted access to the post, from September 12th onward. This and other public concerns resulted in a decrease in attendance compared to the year 2000. The total attendance decreased by 14.9%. The number of tours decreased by 21.5%, with the number of visitors participating in the tour groups decreasing by 22.2%. Special events attendance decreased by 11%.

Public Programs:

Programming presented as part of the exhibition “Blood, Sweat and Saline: Combat Medicine in the Korean Conflict” included lectures in January, by Brigadier General Connie Slewitzke (Army Nurses Corp), of Women in Military Service for America Foundation, Inc, and Commander Frances Omori (US Navy), author of the book, *Quiet Heroes: Navy Nurses of the Korean War, 1950-1953*. Gen Slewitzke provided a historical perspective on the role of women in the Korean War, and Commander Omori highlighted the service, dedication, and professionalism of the United States Navy Nurses. In November 2001, Alan Hawk, manager of Historical Collections at the National Museum of Health and Medicine, presented a lecture on “Korean Conflict Medical Care: from Infections to Battlefield Wounds.” His lecture included the following topics: designing modern hospitals in an underdeveloped country, the harsh Korean climate, infectious diseases, and medical technology and techniques that developed during this conflict.

Programs offered in conjunction with the exhibition “The Changing Face of Women’s Health” included February’s “You Can Survive: Going to Battle against Breast Cancer.” This daylong symposium explored breast cancer and the various approaches taken by doctors and medical professionals to diagnose and treat it. Craig D. Schriver, MD (general surgeon), Daniel S. Jorgensen, MD (chief surgeon, plastic surgery), and Caroline Tuman, RN (head nurse & nurse case manager of the Clinical Breast Care Center) at Walter Reed Army Medical Center; Katherine Alley, MD (surgeon – medical director of Suburban Hospital Breast Center), Carolyn Hendricks, MD (oncologist), and Susan Abrams, MSW (clinical social worker) at Suburban Hospital; and Estelle Cook-Sampson, MD (radiologist) at Howard University covered topics that included early detection, the latest surgical treatment options, chemotherapy, eating healthily, and coping with the side effects of various treatments.

In March, the film *A Midwife’s Tale* was presented. This 1997 film was based on the Pulitzer Prize-winning book of the same title by Laurel Thatcher Ulrich, which chronicles the interwoven stories of Martha Ballard, an 18th century American midwife/healer, and Ulrich, the 20th century historian who brought Ballard’s diary to light. “A Day of Discovery and Prevention,” a health fair cosponsored with Howard University Hospital, was held in April to encourage women, men, and children to check up on their health. Physicians and medical students from Howard presented talks throughout the day that took a closer look at diabetes, hypertension, healthy feet, eating well, and breast cancer.

“March On, Woman: Women’s Health and Women in the Military” was a noontime lecture series, presented in June, that took a look at health and medical challenges for military women. Army LTC Elspeth Cameron Ritchie, MD, program director, Mental Health Policy and Women’s Health Issues, Office of the Assistant Secretary of Defense, Health Affairs, provided an overview of mental health concerns of women in the military, as well as discussed issues of sexual trauma in the military. Army LTC Pauline Knapp, who commanded the 56th Evacuation Battalion at Ft Bragg, North Carolina, and whose current assignment is as assistant executive officer to the Army Surgeon General in Falls Church, Virginia, talked generally about women’s health in the military, as well as her command of a hospital during a recent deployment to Bosnia. Navy CDR Curtis Ollayos, MD, MPH, a cytopathologist formerly in the Department of Cellular Pathology at the Armed Forces Institute of Pathology, discussed his research on “the relative risk for hpv-related cervical disease among beneficiaries of the military health care system.”

A gallery talk was presented in conjunction with the exhibition “American Angels of Mercy: Dr. Anita Newcomb McGee’s Pictorial Record of the Russo-Japanese War, 1904.” Michael Rhode, archivist in the Museum’s Otis Historical Archives and co-curator of the exhibit, lead the talk, including information about Dr. McGee’s personal life, her professional accomplishments, and the purpose of her trip to Japan with a small group of nurses.

Other Museum programs included a popular Halloween program that featured the Museum’s curator of Anatomical Collections, Paul Sledzik, discussing “Vampires: Truth or Fiction?” and Lenore Barbian, PhD, the assistant curator of Anatomical Collections, talking about “The Raw and the Cooked: Osteological Evidence for Prehistoric Cannibalism.” The program also included “Forensics Mystery” workshops for children and adults. These workshops provided the participants with hands-on opportunities to study and analyze replicated skeletal remains to determine the identity of a missing person.

OTHER EVENTS

Collaboration:

The Museum collaborated for a second year with Dana Alliance for Brain Initiatives and the

National Institutes of Health in a 6-day celebration of “Brain Awareness Week 2001,” in March. Because of the program’s expansion, nearly 1,200 students from Washington, DC, Maryland, and Virginia had the opportunity to participate in lectures, activities, and opportunities to interact with local neuroscientists. Students were also able to see, touch, and learn all about the human brain. This year, neuroscientists from the National Institutes of Health, Georgetown University, Howard University, and National Aeronautics and Space Administration (NASA) partnered with NMHM and Dana to present lectures and hands-on activities for elementary, middle, and high school students. Participating neuroscientists included Steven Hyman, MD, director of the National Institute of Mental Health (NIMH); Enoch Gordis, MD, director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA); Alan Leshner, PhD, director of the National Institute on Drug Abuse (NIDA); Audrey Penn, MD, deputy director of the National Institute of Neurological Disorders and Stroke (NINDS); Jacob Bloomberg, PhD, human life scientist at NASA Johnson Space Center; Benjamin R. Walker, PhD, visiting assistant professor, Psychology Department, Georgetown University; Chandan Vaidya, PhD, assistant professor, Psychology Department, Georgetown University; and LaSalle Leffal, MD, of Howard University School of Medicine and a member of the board of directors of the Dana Foundation. E. Fuller Torrey, MD, neuroscientist and director of the Stanley Foundation, spoke to a group of high school juniors and seniors.

The Museum collaborated with Health Pact, Inc, a local nonprofit company that assists community organizations by securing medical personnel, community groups, and medical supplies for health fairs, to present “National Health Awareness Kickoff,” a series of programs held the first Saturday of each month to explore and identify health- awareness issues. Medical professionals provide in-depth information on the selected health issue of the month and provide free health screenings for Museum visitors interested in the state of their health. This program began in May and will continue throughout 2002.

Teacher Workshop/Open House:

Local area teachers and educators attended NMHM’s annual program to learn how museum visits and resources can complement teaching and classroom learning. They also received a special preview of a guided tour school students receive at the Museum. Dr. Adrienne Noe, Museum Director; Jim Connor, assistant director of Collections; Paul Sledzik, curator of Anatomical Collections; Dr. Lenore Barbian, assistant curator of Anatomical Collections; Alan Hawk, manager of Historical Collections; Elizabeth Lockett, imaging specialist of the Human Developmental Anatomy Center; and Archie Fobbs, curator of Neuroanatomical Collections, provided information on their collections and programs, as well as presented various items in their collections for the teachers to handle.

Ongoing Programs:

The Museum offered weekend docent-led tours to walk-in visitors on the second and fourth Saturday of each month, at 1 p.m.

Tour Program:

Docents and staff at the Museum benefit from educational presentations made at monthly docent meetings. Speakers address topics such as military medicine and current research being conducted at AFIP. In October 2001, Kondi Wong, LtCol, USAF, MC, chief, Division of Neuromuscular Pathology, Department of Neuropathology and Ophthalmic Pathology at the AFIP, presented a talk on bovine spongiform encephalopathy (BSE), more commonly known as “mad cow disease.” Also, Ted L. Hatfield, LtCol, USAF, BSC, chief, Division of Microbiology, Department of Infectious and Parasitic Diseases Pathology, spoke in December on anthrax, a current, upsetting topic in local, national, and international news. These lectures are part of the continuing education and training for docents.

In addition to the general tour, which introduces visitors to the highlights of the exhibition galleries, the following Curriculum Connection tours were offered during 2001: “The Human Body” and “To Bind up the Nation’s Wounds: Medicine During the Civil War.” The “Forensics Mystery” workshop continues to be a popular hands-on activity tour for school students and adults.

EXHIBITIONS DIVISION

Research Matters Exhibit:

The Research Matters exhibit program provides Museum visitors with a window into AFIP research activities. Visitors can also learn about the relevance of scientific research on their

lives, as well as the role US military medicine plays in world health. Piloted in 1996, the program occupies an exhibit case in the Human Body/Human Being exhibit gallery. This year's exhibit, "Research Matters: Environmental and Toxicological Effects of Arsenic," focuses on the arsenic investigations undertaken by the Biophysical Toxicology Branch of the AFIP's Division of Environmental Pathology. An artifact from the Office of the NY Medical Examiner is on display to illustrate arsenic as an intentional poison in a 1935 murder victim. The head and shoulders of a girl who died naturally in the late 1800s and was embalmed using an arsenic lacer formula illustrates the preservative powers of arsenic and calls attention to the possibility of it contaminating drinking water.

Temporary Exhibits:

The Museum's 1,430-sq-ft Silliphant Hall is dedicated to temporary installations. Exhibit programming for this space continues to be used to meet one of the Museum's exhibition missions of exploring the links between the humanities and the world of medicine. Museum staff installed 2 exhibits in Silliphant Hall during 2001, "The Changing Face of Women's Health" and "American Angels of Mercy: Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904."

"The Changing Face of Women's Health" was an exhibition devoted exclusively to women's health issues. It featured interactive and multimedia techniques, companion programs, educator outreach materials, and a Web site. The interactive exhibit was organized into four central themes: detection, prevention, risk, and control. The theme of detection used breast disease to highlight the wide range of tests, screenings, and state-of-the-art technologies used to identify various conditions and diseases. The theme of prevention encouraged women to take charge of their own health, and weighed the trade-offs and benefits of preventive behaviors. Using osteoporosis as an example, the exhibit emphasized how habits formed in early adolescence can impact later health. The risk section focused on an individual's ability to assess and understand personal risk, illustrated through the model of cardiovascular disease, the Number 1 killer of women in the country. Finally, the exhibit dealt with control, presenting body image as it relates to health and probing complex issues regarding body types and what is considered normal, healthy, and desirable in our society.

"American Angels of Mercy: Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904": Dr. McGee, an acting assistant surgeon in the US Army and founder of the US Army Nurse Corps, which she directed from 1898 to 1901, led a group of trained nurses to work in Japanese army hospitals for 6 months in 1904. As volunteers, McGee and her nurses were treated as guests of the Japanese nation, and greeted with "Welcome, American Angels of Mercy" banners in the streets. The exhibit focused on the half-year Dr. McGee and a party of nine nurses spent in Japan working side by side with Japanese nurses in the wards and operating rooms.

National History Day Program Exhibits:

The National History Day program encourages students to get excited about history, and learn about issues, ideas, people, and events that interest them. Each year, a broad theme is selected for the History Day contest. Competitions are initiated at a local level and proceed through state competitions on to the national competition, held annually in June, at the University of Maryland. Students participate in either Junior Division (grades 6 through 8) or Senior Division, (grades 9 through 12). Categories of competition include papers, performance, media presentation, or exhibit. Students can participate in groups or as individuals. The Museum has hosted displays of the exhibits during the summer since 1998. A 14-year-old from Cedar City, Utah, spent more than 8 months on her exhibit, "Civil War Battlefield Medicine." Replicas of medical instruments, fact sheets, and photographs of amputation victims were used to illustrate how bacterial diseases claimed the lives of many soldiers before the practice of sterilization was adopted. The project also chronicles the surgical techniques of battlefield medicine, the introduction of new medical instruments, and female nurses. Two high school honor students worked as a team to research and construct their exhibit, "Watson and Crick's Double Helix: A Frontier in Modern Science." Their project traced the progress of DNA research and highlighted the work of James Watson and Francis Crick. The project pointed out the many uses of DNA research, such as forensics, cloning, and the ethics behind DNA mapping and storing.

DEPARTMENT OF COLLECTIONS

MISSION

The Collections Department of the NMHM preserves materials representing the broad subject areas related to the history and practice of American medicine, military medicine, and modern medical and health issues and research. Each collecting division specializes in different media and subject areas. The division's responsibilities are to (1) provide the highest level of professional care for the NMHM collections and their associated documentation; (2) collect objects, specimens, and related archival materials deemed significant and relevant to the mission of the NMHM; and (3) support research, exhibits, and public programs through access of collections.

ANATOMICAL COLLECTIONS DIVISION

STAFF

Jim T. H. Connor, PhD, Assistant Director for Collections
Lenore Barbian, PhD, Collections Manager
Alan Hawk, BA, Collections Manager
Donna Quist, BA, Assistant Collections Manager
Paul Sledzik, MS, Curator, Anatomical Collections
Michael Rhode, MA, Archivist
Tabitha Oglesby, Assistant Archivist
(A) Michael Simons, Registrar

MISSION

Anatomical Collections collects and preserves human and nonhuman medical, pathological, and anatomical specimens and associated materials documenting normal anatomy and the response to disease and injury.

CONSULTATION

The collection staff received 40 phone calls, 86 e-mails, and 18 letters requesting information on the collection or on topics related to the collections.

In 2001, the staff members of the Anatomical Collections served as consultants to several projects. Lenore Barbian and Paul Sledzik analyzed 2 forensic anthropology cases for the Office of the Chief Medical Examiner, Northern Virginia District. They supported the AFIP Forensic Dentistry course again this year by providing 2 days of forensic anthropology lab sessions.

Lenore Barbian and Paul Sledzik continued their consultation with the Warren Anatomical Museum at Harvard Medical School. The Warren has sought their advice on rebuilding its collections and contracted with the NMHM to conduct an inventory of their collection.

In compliance with 43 CFR 10.9, the Native American Graves Protection and Repatriation Act, 5 notices of inventory completion were published in the *Federal Register*.

Deployments:

Following the events of September 11, Paul Sledzik and Lenore Barbian responded with the USPHS Disaster Mortuary Operational Response Team to the crash of United 93 in Somerset County, Pennsylvania. Paul Sledzik served as the DMORT team commander and Barbian as a forensic anthropologist.

EDUCATION

Lenore Barbian and Paul Sledzik organized a program with the Fairfax County, Virginia, Department of Family Services Science in Residency Program to teach skeletal biology to K through 5th grade home-school students. They also provided lectures to a variety of visiting groups, including Montgomery County teacher training, several elementary and high school groups, and community college students.

May 14-18, 2001: The annual Forensic Anthropology course was held at USUHS. This year, 53 students attended. As in past years, the course evaluations proved the success of this course.

Offices/Committee Memberships:

1. Board member, Ellis Kerley Forensic Sciences Foundation, Paul Sledzik.

2. Advisory board member, US Soldier Biological and Chemical Command's Improved Response Program, mass fatality guide, Paul Sledzik.
3. Planning Group member/technical advisor, Mass Fatality Manual, National Center for Forensic Science/National Institutes of Justice, Paul Sledzik.
4. Forensic Advisory Committee member, National Center for Missing and Exploited Children, Paul Sledzik.

Exhibit Support:

Anatomical Collections staff assisted in the coordination and installation of the Women's Health exhibit, and provided curatorial assistance for "American Angels of Mercy: Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904."

Public Affairs Report:

1. The Learning Channel, "Misdiagnosis of Death," 2001.
2. East Company/Fuji Television, segment on vampires for "Unbelievable," 2001.
3. The Learning Channel, Pangolin Productions, "Frozen in Time II: Mummies Forever," 2001.
4. *Washington Post*, June 24, 2001, "Ken Kipperman and the Table of Horrors," by Jeff Leen.
5. *Washington Post*, July 12, 2001, "Health Museum Visitors Beat Path to Union General's Leg Bones," by Linda Wheeler.

HISTORICAL COLLECTIONS DIVISION

The Division of Historical Collections acquires and preserves both artifacts of record and of note documenting the history of the practice of medicine, innovations in biomedical research and the evolution of medical technology. The collection emphasizes the role of the armed services of the United States, the United States Public Health Service, and the United States federal government as it relates to the above themes. The collection is made available for the education of medical professionals, Department of Defense personnel, historians, and the public through exhibits in the Museum, loans to other institutions, and individualized study.

CONSULTATION

Historical Collections staff responded to 83 research requests, most of them civilian. Seven research requests were from the military (5 Army and 2 Navy), including requests for information from the Navy Historical Center on issues concerning the handling of human remains from the *CSS Hunley* (the first submarine to sink a ship). Consultation was provided to Veterans Affairs regarding the establishment of a museum honoring veterans from New Jersey.

In response to the events of September 11, Historical Collections is actively collecting artifacts related to the medical aspect on the War on Terrorism. Among the items collected are samples of antibiotics used in the treatment of anthrax as well as instruments used in the identification of servicemembers and staff killed in the attack at the Pentagon.

Historical Collections acquired 327 artifacts in 2001. Acquisitions include medical instruments and uniforms belonging to CPT James J Smith, a medical intelligence officer with the OSS in Germany immediately following VE day, a collection of 176 anti-malarial drugs evaluated by Walter Reed Army Institute of Research and the National Institutes of Health between the 1940s and 1970s, a prototype miniature analytical thermal cycler instrument, a Lipshaw Model 1100 histological tissue processor, a comparison microscope used by the FBI, and a feminine protection field kit (FPFK) issued to women deployed in Somalia in 1994.

Historical Collections is attempting to collect a fibrin bandage for the collection. David Tuthill of the American Red Cross requested Alan Hawk's assistance in solving the problem of long-term storage of these bandages, which are extremely hydroscopic. Alan Hawk requested information from Museum conservators through the CONDISTLIST listserve and forwarded their responses to Mr. Tuthill.

Alan Hawk, a reservist with the US Navy, was activated from mid-November 2001, for the remainder of the year.

EDUCATION

Presentations and Seminars:

Historical Collections staff presented 5 lectures, provided 2 poster sessions, and prepared 2 exhibits in 2001. One exhibit is about AFIP research on arsenic and the other, with Otis Historical Archives, about Anita McGee, US Army nurse in Japan during the Russo-Japanese War. One of the poster sessions was produced to support the historian of the US Army Office of the Surgeon General. It will be a part of a series of poster sessions based the exhibit "Blood Sweat and Saline, Military Medicine during the Korean Conflict," and will be displayed in the lobby of the Surgeon General's Office.

Official Trips (funding agency in parentheses):

April 2001, American Association of the History of Medicine, Charleston, SC, J Connor (ARP), A Hawk (AFIP).

Public Affairs Reports:

1. Alan Hawk was interviewed in "Lessons from the Battlefield, Advances Made During War Have Changed the Face of Modern Medicine," *Daily Herald*, November 5, 2001.
2. Museum artifacts relating to orthopedics were featured in Discovery Channel's TV documentary "21st Century Medicine: Human Hardware."

OTIS HISTORICAL ARCHIVES

RESEARCH

2001 was a productive year for lectures and publications, but the largest effort was put into the production of an exhibit on Anita McGee's Russo-Japanese War photographs.

Research Requests:

The Archives received approximately 200 requests for information this year, excluding medical museum and AFIP requests, visitors, or referrals to other institutions. Requests for information dropped significantly after the September 11 terrorist attacks.

Researchers were affiliated with AFIP and WRAMC, including the Director's Office and WRAMC Vaccine Healthcare Center. External users included Academic Press, Ames Middle School, Army Historical Foundation, Big House Productions, Bunda Stutz & DeWitt, Burnett Howard Productions, California Newsreel's "The Human Race, Center for Research — Allied POWs under Japan," Connections Productions, Connell Foley Library, DoD Health Affairs, Department of History/Albright College, Exxon Mobil Biomedical Sciences Inc, Forest Glen Commonwealth, Galen Press, *Geo Magazine*, George Washington University, Greystone Communications, HICFA (Port West), Hakala Communications, *Handbook of the North American Indian National Museum Natural History*, Harvard Business School, History Channel, Hoggard Films / National Geographic Society, Kirchoff/Wohlberg, MPH Entertainment, Max Planck Institute for History of Science, McGuire Reeder, Metropolitan Museum of Art, Office of Military Health Systems, Philadelphia University, Roja Productions, Simpson Thatcher & Bartlett, US Army, University of Virginia Center for Bioethics, University of North Carolina, United States Naval Shipbuilding Museum, and the *Washington Post*. International requests for photographs from Italy and Peru.

Acquisitions:

The Archives had few new collections this year. New material acquired included Klionsky's pathology records, the Saga Hospital register from the atomic bombings of Japan, an editorial cartoon on AIDS by Swann, and several small photograph collections, films, and books. The McCormick Collection of material on Pelam Company consisted mostly of three-dimensional instruments for Historical Collections, but records of the company and schematics of the instruments came to the Archives. Many small donations of books, posters, pamphlets, trade literature, and photographs were added to the overall collection. Museum records from staff members were added to the Archives. Book donations included 2 on medical numismatics and orthopedic surgery in Puerto Rico from a donor in Puerto Rico and *Health seekers in Arizona* from Phoenix Baptist Medical Museum.

The OHA deaccessioned New York Police Department missing person photographs to New York City Municipal Archives in the fall.

Collections Management:

Computerized cataloging on the collection level has continued in the shelf inventory.

Cataloguing for the General Medical Products Information Collection, medical ephemera, new contributed photographs, audiovisual collection, AFIP historical files, and others was done. Research continued into a comprehensive computer catalogue for the entire Museum, and a system was recommended for purchase. Over 200 substantial requests for information were handled, frequently regarding sensitive topics. Several collections were arranged and described, with finding aids. Oglesby processed the following collections and wrote finding aids for them: Zimmerman, Irely, Klionsky, Kirschenbaum, Goler, and Kavruck. A significant Archives presence, including the *Guide to the Collections of the Museum* on the Web site, continues to bring in researchers. The McGee Collection was recatalogued to make it useful for the new exhibit; research was done at the Library of Congress on the photographs as well.

Projects and Other Activities:

The main project of the year was the Russo-Japanese War photograph exhibit. Rhode and Connor developed and ran the exhibit production, and successfully opened the exhibit on time with a very short lead-time. Donor Fred Sharf assisted the Museum to produce a catalogue of the exhibit, ending in a donation of \$15,000 worth of posters, postcards, and catalogues. The OHA continues to update its significant presence on the Internet, including the *Guide to the Collections of the Museum*, which continues to bring in researchers. The World War I influenza page is especially popular with researchers. Rhode served during the year on the AFIP's Institutional Review and the Transition Senate. Rhode continued to serve this year on the Museum's Administrative Committee. In the summer, Oglesby participated in the Museum's Career Day. The Museum loaned the Thomas Eakins painting of John Hill Brinton to the Philadelphia Museum of Art and the Louvre. We provided a small level of support for the 2001 ARP calendar. We provided conservation recommendations and duplicated a historic photograph album for the WRAMC command; a set of the duplicate pictures was retained by the OHA. A proposal to do a session on the Museum in 2002 for the American Association for the History of Medicine was accepted for the Kansas City meeting. Rhode also has had a paper, "'An Enduring Monument': Philadelphia's Contributions to *The Medical & Surgical History of the War of the Rebellion* (1870-1888)," accepted for the Society for the History of Authorship, Reading & Publishing 2002 meeting in London. Helen N. Jacobs, granddaughter of Henry Hobart Nichols, one of the Museum's Civil War era wood engravings, visited the Museum and saw his work. The OHA's Halon fire suppression system released twice as a result of construction elsewhere in the South Wing. The OHA will close to undergo renovations in 2002, to have asbestos abatement and the system replaced with a modern one.

Official Trip:

April 2001, American Association for the History of Medicine, Charleston, SC, M Rhode (AFIP).

Exhibit:

Rhode M (curator and project manager) and Connor JTH, et al. "American Angels of Mercy: Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904" exhibit, National Museum of Health and Medicine, Washington, DC, October 1, 2000- February 28, 2001.

DEPARTMENT OF RESEARCH COLLECTIONS

MISSION

To acquire, preserve, and encourage the use of major research collections for all qualified members of the research community. The collections are made available for research and education by appointment, and via Web site. Continued stimulation of new hypothesis-driven research is a top priority.

ORGANIZATION

The Research Collections consist of 2 divisions: the Human Developmental Anatomy Center and the Neuroanatomy Collections. (The Human Developmental Anatomy Center has entered its 5th year of funding by the National Institutes of Child Health and Human Development.)

opment, the National Center for Research Resources, and the Office of Research on Women's Health. The Neuroanatomy Collections continue to be the recipient of National Science Foundation funding for electronic collections development.)

HUMAN DEVELOPMENTAL ANATOMY CENTER (HDAC)

STAFF

Adrienne Noe, PhD, Director
Elizabeth C. Lockett, Imaging Specialist
William F. Discher, Imaging Specialist
Kumudini Mayur, PhD, Imaging Scientist

Student Interns:

Andrew Wasson, Emory University
David Brooks, George Mason University
Ryan Landoll, Science and Engineering Program, George Washington University
Richard Sinn, Thomas Wooton High School
Andrew Chen, Thomas Wooton High School
Peter Choi, Thomas Wooton High School

Collections:

Human Developmental Anatomy Center
Carnegie Institution Human Embryological Collection
Cornell Human and Comparative Embryology Collection
Hooker Humphrey Collection
The Elizabeth Maplesden Ramsey Collection
George Sedgewick Minot Embryological Collection
Gaenssler Pulmonary Pathology Collection

Tours:

The Anatomy Center hosted 10 tours in 2001. Visiting military VIPs, school tours, professional organizations, and AFIP staff have all come through the center.

Workshops:

HDAC staff presented a workshop in 3-dimensional computer modeling for disadvantaged high school girls, St Anne Institute, Albany, NY. We participated in the open house for high school science teachers hosted by the Museum.

The 2001 Embryology Imaging and Education Conference was hosted by the Human Developmental Anatomy Center. There were a total of 60 attendees and speakers; 3 students and 1 high school biology teacher attended. Our goals to foster collaboration between teachers and researchers were met. Mr. David Rhodes, a biology teacher from Brother Martin School in New Orleans, La, and Professor Ray Gasser, LSUMC, were able to combine their common interests. Mr. Rhodes students are provided the opportunity to intern in the Imaging Laboratory at Louisiana State University Health Sciences Center.

There were 12 speakers on a variety of topics, ranging from a history of medical illustration to the use of laser confocal imaging to determine blood-flow speed and patterns in the developing zebra fish heart. There were 3 round table discussions. The Textbooks and Technology Panel featured lively discussion on what "new" information should be included and what "old" information should be excluded from the texts. The Open Source Genetics and Large Screen Labs discussions were also well-attended, and prompted continuing discussion after the conference. The possibilities of using an IMAX theater format to teach embryology seemed especially appealing to those instructors wishing to expand their audiences beyond medical school students.

The Elizabeth Ramsey Dinner speaker, Betty Ann Hotltzman-Kevles, presented her study of 20th century medical images, and provided an interpretive take on the portrayal of women and pregnancy in popular culture.

This biannual conference offered by the Human Developmental Anatomy Center, National Museum of Health and Medicine, of the Armed Forces Institute of Pathology, was sponsored in part by the AACA, and received additional support from the American Registry of Pathology, the American Association of Anatomists, Museum staff, and Eolas Technologies

RESEARCH

Fourteen visiting researchers used the collections, for a total of 29 days on 9 visits, in 2001. Research topics covered the developing heart, maxillofacial development, urogenital development, and neuroanatomy. AFIP staff requested information on pediatric pathology from the collection. The Center had 14 requests for images from the collection and 6 requests for electronic data sets, requiring 27 staff days to process. Three-dimensional CGI models of embryos were made. A package of images of early human development was created and sent to various researchers and publications, including the *New York Times* Science Section, Wiley and Son, and several Web-based parenting and women's issues Internet sites.

Exhibitions:

The Carnegie Institute of Washington, DC, requested a loan of several objects and images from the Center relating to Elizabeth Ramsey, MD.

Grants:

1. "Human Embryology Digital Library and Support Tools" (phase two), Part of the Next Generation Internet Project, funded by the National Library of Medicine.
2. "Human Embryology on DVD," Louisiana State University Medical Center, funded by the National Library of Medicine.

Collaborative Projects:

The Human Developmental Anatomy Center continued its collaborative project with George Mason University, as it received second-year, second-phase funding of the grant "Human Embryology Digital Library and Support Tools." This grant is part of a next generation Internet project, funded by the National Library of Medicine. The goal is to develop prototype databases and other technologies to enable collaboration among multiple, distributed researchers, and to make progress towards advanced clinical and educational goals in human embryology.

In addition, the Center is in collaboration with the Louisiana State University Medical Center (LSUMC) on an educational project, "Human Embryo Sections on DVDs for Education." The objective of this project is to provide students, educators, and researchers accurate, inexpensive, and accessible visual information on human embryonic development. Aligned digital images of the serial sections of the best normal human embryos in the Carnegie Collection will be made available on computer disks (DVDs).

The Center continued its collaborative modeling project with the Congenital Heart Research Center at Oregon Health Sciences University. Anatomix, Inc, and the University of California, Davis, continued to work with William Discher to model the developing human. The University of Illinois at Chicago continued a collaboration to produce a series of animations depicting normal human development, using models generated at the Center. These will be viewed via Web site for teaching and patient information.

William Discher is participating as an advisor in modeling techniques on a grant with the Neuroanatomy Collections, "Magnetic Resonance Imaging of Dolphin, Porpoise, and Whale Brains."

Continuing Education:

Kumudini Mayur, PhD, Johns Hopkins University, Gene Sequencing and Analysis, American Registry of Pathology

NEUROANATOMY COLLECTIONS DIVISION

MISSION

The Neuroanatomical Division encourages the use of its resources by all qualified members of the research community, as part of its role within the Armed Forces Institute of Pathology and the National Museum of Health and Medicine. This division collects and preserves valuable artifacts of neuroanatomy, and strives to become the premier repository in the United States for collections focusing on neuroanatomy in the embryo, the adult human, as well as other selected species. Continued stimulation of new hypothesis-driven research is a top priority

STAFF

Archibald J. Fobbs, Curator

Surinder Sandhu, NSF Project Technician

Collaborating Researchers:

John I. Johnson, PhD, Department of Anatomy, Michigan State University

Wally I. Welker, PhD, Department of Physiology, University of Wisconsin-Madison

Volunteer:

Stephen Schiaffino, PhD

Student Interns:

Vikas Patel, Long Reach High School, Md, Anjali Nana, Paint Branch High School, Md,

Aaron Basch River Hill High School, Md

Mike D'Abreu, Science and Engineering Program, George Washington University

Pratik Patel, Science and Engineering Program, George Washington University

Neuroanatomical Collections:

Yakovlev-Haleem Neuropathology and Development Collection

Blackburn-Newmann Collection

Lindenburg Forensic Pathology Collection

Welker Comparative Neuroanatomy Collection

Rubenstein Collection

Adolph Meyer Neuropathology and Development Collection

Isabel Lackhard Comparative Neuroanatomy Collection

The Publos Anatomical Collection

Web site:

The University of Wisconsin-Madison and Michigan State University implemented, and supervise, the Web site. The information presented on the site reflects the mission of the Museum. Financial support for this Web site is provided by a grant from the National Science Foundation. In 2001, collection inquiries via the Web site increased 15 %. Requests for collection images, scheduling visits to the Collections Division, and to the Museum have all increased as a result of the site. The site receives about 105 hits per day from all over the world. Educators report it is a useful curriculum development resource for science projects and for answering structural and functional questions about the brain. The general public is able to use the site to get information about the brain.

Conservation:

The fluid-preserved tissue conservation for the Yakovlev-Haleem Collection and the Welker Comparative Neuroanatomy Collection continues. Conservation procedures are performed on a regular basis, and fluids are changed as needed. In an effort to improve the conservation efforts, the fluid-preserved tissue of the Yakovlev-Haleem Collection is being transferred to the Museum's off-site storage facility in Gaithersburg, Maryland.

The Blackburn-Neumann Collection fluid-preserved tissue evaluation and conservation effort has been completed. As a result of this survey, the condition of the tissue, the type and condition of the fluid, and the condition of the containers were improved. This information has been used to develop a statement of work and a standard operating procedure for implementation of a complete conservation reconditioning of all fluid-preserved tissue specimens in the collection. Paper documents of the Blackburn-Neumann Collections were moved from the Department of Neuropathology and Ophthalmic Pathology and safely housed in map cases in the Otis Historical Archives. This process is ongoing.

Collection staff are currently identifying conservation needs and examining Welker Comparative Neuroanatomy Collection slides. This information will be used to develop a conservation plan.

The Yakovlev-Haleem Library is being organized in its new bookcases. As the reorganization is taking place, the condition of the contents is being evaluated. This process continues.

Equipment:

A new server has been added to handle file transport process applications, image acquisition, data storage, brain specimen reconstruction, and digital graphic imaging. This equipment is available to researchers and student interns.

RESEARCH

Researchers visiting the Neuroanatomical Collections increased by 10%. The number of researchers visiting the collections during 2001 totaled 200. The total number of research days

in 2001 was 220. Despite the events of September 11, 2001, visits by researchers remain constant. Many visiting researchers obtained collection information via the Internet, and staff membership in neuroscience organizations. Elementary and secondary educators have become increasingly interested in using the collection for classroom instruction. The National Science Foundation has identified the collaboration between the National Museum of Health and Medicine/AFIP, the University of Wisconsin-Madison, and Michigan State University as one of the model projects it has funded.

In 2001, the number of students taking part in various research activities increased by 15%. The Neuroanatomical Collections were instrumental in providing valuable educational experiences for students from Paint Branch High School in Silver Spring, Maryland, Hebrew Day Elementary School in Silver Spring, Maryland, Holmes Middle School in Alexandria, in Virginia, the Congressional Page School in Washington, DC, and DeMatha Catholic High School, Hyattsville, Maryland. Howard County Technology Magnet Applications and Research Laboratory Program has partnered with Neuroanatomical Collections and the Human Developmental Anatomy Center to promote internships for high school students of Howard County. This relationship provides research opportunities for students attending the county's technical magnet programs at Long Reach High School in Columbia and River Hill High School in Clarksville, Maryland.

Collaboration with Wally Welker, PhD, of the University of Wisconsin-Madison and John I. Johnson, PhD, of Michigan State University is in the 7th year, and is grant funded by the National Science Foundation, which provides a project technician to assist the curator with research and development projects. This grant has been identified by the National Science Foundation as one of its most productive projects.

Manuel Casanova, MD, professor of psychiatry and neurology, Veterans Affairs Medical Center, Augusta, Georgia, and Daniel Buxhoevedan, MD, assistant professor, Medical College of Georgia, are using the collection in their research on quantitative comparative morphology of cell columns in humans and nonhuman primate brains. The goal of this project is to compare organization of cell columns in the temporal region of humans to that of primates.

Lori Marino, PhD, an associate professor of biology in the Department of Biology, Emory University, in Atlanta, Georgia, is collaborating with Neuroanatomy staff and Human Developmental staff on a research project titled "Magnetic Resonance Imaging (MRI) of Dolphin, Porpoise, and Whale Brains." The goal is to produce an electronic brain atlas, for the Internet, complete with 3-dimensional models. The atlas will be designed for both education and research.

Neuroanatomical Collections staff and Kondi Wong, MD, a neuropathologist at AFIP, are working on an Alzheimer's project to reconstruct and quantitatively analyze Alzheimer's cases and normal cases from the Yakovlev-Haleem Collection.

Outreach:

The Neuroanatomy Collections Division of the National Museum of Health and Medicine/AFIP, the Dana Alliance for Brain Initiatives, and the National Institutes of Health collaborated on a Brain Awareness Program. Students from Virginia, Maryland, and the District of Columbia were invited to hear featured speakers from NIH and participate in interactive demonstrations. They also viewed artifacts from the Museum's brain collections. A total of 400 students attended the 2-day program.

Extensive alphanumeric data from Museum collection specimens are also used worldwide via Internet presentation. Interns with the Neuroanatomy Collections Division are able to gain experience with this technique using software such as ANALYZE. The NSF project technician, along with the interns, devised a mathematical solution to using measurements and the histological slides. Data and images from Museum collection specimens are made available for use at all educational levels. This is done via the Internet or physical diskettes. Interns gain valuable experience.

Magnetic resonance imaging (MRI) scans provide volumetrically and spatially accurate data about the internal architecture of brains of rare or difficult-to-process species of animals. The spatial data can be analyzed in 3-dimensional models. When student interns obtain the scans, using software such as MAYA and SURFDRIIVER, they are able to commence 3-dimensional modeling. The project has provided opportunities for training interns in the use of data storage, electronic imaging, and the acquisition of neuroanatomical data, including 3-dimensional surface render modeling. Ten students have received this type of training from the curator, as well as the NSF project technician.

Tours:

The Neuroanatomy Center hosted approximately 55 tours during 2001.

Loans:

Yakovlev-Haleem Collection Library usage increased by 15 %. The major source of the increase was students taking the AFIP Neuropathology Review Course, AFIP Department of Neuropathology and Ophthalmic Pathology staff members, and visiting researchers.

Transfers:

Archival documents found in the Yakovlev-Haleem Collection Library were transferred to the Otis Historical Archives.

PRESENTATIONS

1. February 2001: Seattle, Washington, American Society of Forensic Odontology, "DMORT forensic operations and the future of disaster victim identification," PS Sledzik.
2. February 2001: Howard County, Md, ARL, Applied Research, Demonstration of the Human Brain and Its Functions, AJ Fobbs.
3. March 2001: Washington, DC, National Museum of Health and Medicine, AFIP, "Introduction to the midwife's tale," J Connor.
4. March 13-17, 2001: Seattle, Wash, Museums and the Web Conference, "The digital embryo library and collaborative tools," presented by EC Lockett, Authored by EC Lockett, A Noe, M Doyle, A Rajasekar, M Holterman, C Paidas, M Pullen, J Pentecost.
5. March 2001: Washington, DC, National Museum of Health and Medicine/AFIP, Brain Awareness Week, AJ Fobbs, A Noe.
6. March 2001: Washington, DC, National Museum of Health and Medicine/AFIP, Presidential Awards Program, AJ Fobbs, JI Johnson.
7. April 2001: Alexandria, Va, Manor House Programs, Green Spring Gardens, "Hospitals on wheels during the Civil War, the US Army hospital trains of the Army of the Potomac and the Army of Virginia," A Hawk.
8. May 2001: Washington, DC, Capital Hill Restoration Society, "Medicine during the Civil War" (poster session), A Hawk.
9. May 2001: Washington, DC, National Museum of Health and Medicine, AFIP, "Research matters, arsenic" (exhibit), J Connor.
10. June 2002: Washington, DC, Washington Society for the History of Medicine, "Pictures of an institution: the continuing reinvention of the modern hospital," J Connor.
11. July 2001: Washington DC, National Museum of Health and Medicine/AFIP, National Youth Leadership Forum on Medicine Careers in Science, AJ Fobbs.
12. July 30-31, 2001: National Library of Medicine, Bethesda, Md, State of the Project Demonstration, "The digital embryo library and collaborative tools," presented by M Pullen, A Noe, W Lennon, R Moore, M Doyle, J Pentecost, EC Lockett, M Holterman, C Paidas. Authored by M Pullen, A Noe, M Doyle, J Pentecost, EC Lockett, M Holterman, C Paidas.
13. August 17, 2001: Washington, DC, George Washington University, Science And Engineering Program Final Presentations, "Automated translation of foreign language journals from the Carnegie Collection," presented by R Landoll, Authored by R Landoll, A Wasson, EC Lockett.
14. September 2001: Falls Church, Va, Office of the Surgeon General, US Army, "Hospitalization and medical evacuation in the Korean Conflict, 1950-1953" (poster session), A Hawk.
15. October 2001: Washington, DC, National Museum of Health and Medicine, AFIP, "American Angel of Mercy" (exhibit), J Connor, A Hawk.
16. October 2001: NMHM/AFIP, "Vampires: the truth behind the legend," PS Sledzik.
17. October 2001: NMHM/AFIP, "The raw and the cooked: osteological evidence for prehistoric cannibalism," L Barbian.
18. October 2001: Washington, DC, Fourth Annual Archives Fair at the Smithsonian Institution's Ripley Center, M Rhode, T Oglesby.
19. October 2001: Richmond, Va, "On collecting Dr. Arthur Vorwald's asbestosis records: a cautionary tale," lecture for Documenting Adverse Reactions: Doctors, Patients, and

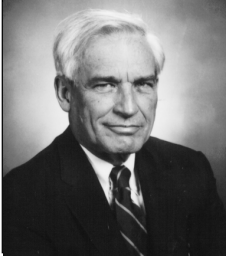
- Lawyers in the Archives session, Mid-Atlantic Regional Archives Conference, M Rhode.
20. October 2001: Washington DC, NMHM/AFIP, Science in the Classroom Teachers Workshop, AJ Fobbs.
 21. November 15, 2001: Denver, Colo, National Science Foundation Teleconference Site Arlington, Va, and Chicago Ill, Super Computing 2001, "The digital embryo library and collaborative tools," presented via high-speed Internet connection and video-conferencing by W Lennon, A Noe, M Pullen, M Doyle, J Pentecost. Authored by M Pullen, A Noe, M Doyle, J Pentecost, EC Lockett, M Holterman, C Paidas.
 22. November 2001: Washington, DC, NMHM/AFIP, "Korean Conflict medical care: from infections to battlefield wounds," A Hawk.
 23. November 2001: Toronto, Canada, "Doing good: the life of Toronto's General Hospital," J Connor.
 24. November 2001: New Orleans, La, Society for Neuroscience, Web site access to Museum specimens for use in neuroscience classrooms and laboratories, JI Johnson, JA Morris, PM Gorayski, SE Sheppard, RA Carloni, BM Winn, WI Welker, CL Dizack, KL Graeme, AJ Fobbs.
 25. December 2001: Washington, DC, Gallery talk on "American Angels of Mercy" for Washington Society for the History of Medicine, National Museum of Health and Medicine, M Rhode.
 26. December 2001: Washington, DC, Gallery talk on "American Angels of Mercy" for DC Picture Group and general public, National Museum of Health and Medicine, M Rhode.

PUBLICATIONS

1. Barbian L, Berndt L. When your insides are out: museum visitor perceptions of displays of human anatomy. In: Williams E, ed. *BAR S934 2001:Human Remains: Conservation, Retrieval and Analysis*. Proceedings of a conference held November 7-11, 1999, in Williamsburg, Virginia. Oxford, England: British Archaeological Reports; 2001:257-266.
2. Rhode M. The other battle of WWI. *Hogan's Alley*. 2001;9:105-109.
3. Sledzik PS. A career takes form: Ellis Kerley's tenure at the Armed Forces Institute of Pathology (1957-1966). *J Forensic Sci*. 2001;46:777-779.
4. Sledzik PS, Rodriguez WC. Damnum fatale: The fate of human remains in mass disasters. In: Haglund W, Sorg M, eds. *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*. Boca Raton, Fla: CRC Press; 2001:321-330.
5. Sledzik PS, Barbian L. From privates to presidents: past and present memoirs from the Anatomical Collections of the National Museum of Health and Medicine. In: Williams E, ed. *BAR S934 2001:Human Remains: Conservation, Retrieval and Analysis*. Proceedings of a conference held November 7-11, 1999, in Williamsburg, Virginia. Oxford, England: British Archaeological Reports; 2001:227-235.
6. Sharf FA, Rhode M, Connor JTH. *American Angels of Mercy: Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904*. Newbury, Mass: Newburyport Press; 2001.

AMERICAN REGISTRY OF PATHOLOGY





Donald West King, MD
Executive Director
Date of Appointment — 1 July 1990



AMERICAN REGISTRY OF PATHOLOGY

The American Registry of Pathology has completed its 25th year. The ARP's contract programs with the AFIP continued to supply personnel and support staff for all departments and divisions of the AFIP.

EDUCATION

The fellowship program continued with 20 Callender-Binford fellows. The 1-month fellows, Residents Symposium, and Students Symposium were suspended for a year while new approaches were being developed to interact with the pathology community.

RESEARCH

The ARP appropriated \$100,000 for pilot research programs for new investigators. In the past 10 years, it has supplied over \$1 million for pilot programs in several departments. It also provided a series of scientific lectures and sponsored several trips for fellows to scientific meetings.

ACCOMPLISHMENTS

The ARP has been active in contacting appropriate chairs and ranking members of the Appropriations and Armed Services Committee in support of a new AFIP building. The Conference Committee of the Senate and House Appropriations Committee directed the Department of Defense to include funding for a new AFIP building in fiscal 2002. The DoD demurred on this request, pending further study. The ARP has cooperated with the AFIP in reviews by the Department of Defense.

On May 30th and 31st, the 25th Anniversary of the Congressional Charter was celebrated, with the year 2001 also representing the 80th year since ARP's founding. The meeting was held at the Cosmos Club, with a celebratory dinner and remarks by the President and Executive Director of the ARP, the Chair of the SAB, and the Director and Deputy Director of the AFIP. Following dinner, a musicale was held in the Warne Lounge. The following day a scientific symposium was held. Guest speakers included alumni of the AFIP, who were paired with present staff members in 5 departments: Dr. Renu Virmani with Dr. Hugh McAllister from the Heart Institute of Texas, Dr. Fattaneh Tavassoli with Dr. Robert Kurman from John Hopkins, Dr. William Travis with Dr. Michael Koss from the University of Southern California, Dr. Lester Thompson with Dr. Bruce Wenig from Albert Einstein/Montefiore Hospital, and Dr. Jeffery Taubenberger with Dr. Cynthia Wright from the University South Carolina.

The written program reviewed 25 years of ARP's contributions toward AFIP's faculty and supporting staff salaries, particularly of new departments (Education and Telepathology), fellowships, scientific seminars, support for research programs including equipment, personnel and supplies, scientific awards, named lectures (Ash and Stowell), renovations, patios and garden upkeep, and other activities to improve employee morale (Laboratory Technicians Week Luncheon, Secretary's Week Luncheon). In addition, the ARP maintained close liaisons with the AMA, and major pathology and other medical societies.

This year, the first publication of the Non-Tumor Fascicle Series, on endocrine diseases, was completed, authored by Drs. Ricardo V. Lloyd, William Young, and Todd M. Arsenault of the Mayo Clinic. Subsequent publications covering all organ systems of the body complementary to the Tumor Fascicles will follow.

The ARP Board is developing a plan for new cooperative efforts with the AFIP.

PUBLICATIONS LIST

2001 PUBLICATIONS

ITEMS PUBLISHED IN PROFESSIONAL JOURNALS

- Abbondanzo SL. Extranodal marginal-zone B-cell lymphoma of the salivary gland. *Ann Diagn Pathol.* 2001;5:246-254.
- Acs G, Acs P, Beckwith SM, Pitts RL, Clements E, Wong K, Verma A. Erythropoietin and erythropoietin receptor expression in human breast cancer. *Cancer Res* 2001;61:3561-3565.
- Aguilera NSI, Abbondanzo SL. Is lymphoplasmacytoid lymphoma/immunocytoma a distinct entity? A clinicopathologic study of 20 cases. *Am J Surg Pathol.* 2001;25:742-751.
- Aguilera NSI, Tomaszewski MM, Moad JC, Bauer FA, Taubenberger JK, Abbondanzo SL. Cutaneous follicle center lymphoma: a clinicopathologic study of 19 cases. *Mod Pathol.* 2001;14:828-835.
- Albonico G, Pellegrino G, Maisano M, Kardon DE. Ganglioneuroma of parapharyngeal region. *Arch Pathol Lab Med.* 2001;125:1217-1218.
- Albores-Saavedra J, Hoang MP, Murakata LA, Sinkre P, Yaziji H. Atypical bile duct adenoma, clear cell type: a previously undescribed tumor of the liver. *Am J Surg Pathol.* 2001;25:956-960.
- Allen EA, Ollayos CW, Tellado MV, Butler DR, Buckner S-B, Williams BH, O'Leary TJ. Characteristics of a telecytology consultation service. *Hum Pathol.* 2001;32:1323-1326.
- Alli PM, Ollayos CW, Thompson LD, Kapadia I, Butler D, Williams BH, Rosenthal DL, O'Leary TJ. Telecytology: intraobserver and interobserver reproducibility in the diagnosis of cervical-vaginal smears. *Hum Pathol.* 2001;32:1318-1322.
- Allsbrook WC Jr, Mangold KA, Johnson MH, Lane RB, Lane CG, Amin MB, Bostwick DG, Humphrey PA, Jones EC, Reuter VE, Sakr W, Sesterhenn IA, Troncso P, Wheeler TM, Epstein JI. Interobserver reproducibility of Gleason grading of prostatic carcinoma: urologic pathologists. *Hum Pathol.* 2001;32:74-80.
- Al-Qahtani JM, McLean IW, Weiblinger RP, Ediger MN. Preliminary in vitro study of the histological effects of low fluence 193-nm excimer laser irradiation of corneal tissue. *J Refract Surg.* 2001;17:105-109.
- Al-Rajhi AA, Hidayat AA, Teichman KD, Riley F. Ocular argyrosis. *Ophthalmic Practice.* 2001;19:311-314.
- Andriko JW, Morrison A, Colegial CH, Davis BJ, Jones RV. Rosai-Dorfman disease isolated to the central nervous system: a report of 11 cases. *Mod Pathol.* 2001;14:172-178.
- Andriko JW, Swerdlow SH, Aguilera NI, Abbondanzo SL. Is lymphoplasmacytic lymphoma/immunocytoma a distinct entity? A clinicopathologic study of 20 cases. *Am J Surg Pathol.* 2001;25:742-751.
- Anikster Y, Lachawan F, Brantly M, Gochuico BL, Avila NA, Travis W, Gahl WA. Pulmonary dysfunction in adults with nephropathic cystinosis. *Chest.* 2001;119:394-401.
- Arber DA, Breziel RM, Bagg A, Bijwaard KE. Evaluation of T-cell receptor testin in lymphoid neoplasms: results of a multicenter study of 29 extracted DNA and paraffin-embedded samples. *J Mol Diagn.* 2001;3:133-140.
- Arnold BW, Gilfeather M, Woodward PJ. Mullerian duct anomalies complicated by obstruction: evaluation with pelvic magnetic resonance imaging. *Journal of Women's Imaging.* 2001;3:146-152.
- Bahadur G, Ling KL, Priya S, Davis CJ, Wafa R, Ashraf A. Sex ratio and maternal age effect in nulliparous women receiving donor insemination. *Fertil Steril.* 2001;75:219-220.
- Baker AM, Davis DW, Berg KK. Polyclonal systemic immunoblast proliferation: an unusual hematologic entity presenting as a medical examiner case. *J Forensic Sci.* 2001;46:156-159.
- Baker AM, Keller G, Garcia D. A novel hunting accident: discharge of a firearm by a hunting dog. *Am J Forensic Med Pathol.* 2001;22:285-287.
- Barekman CL, Aguilera NSI, Abbondanzo SL. Low-grade B-cell lymphoma with coexpression of both CD5 and CD10: a report of 3 cases. *Arch Pathol Lab Med.* 2001;125:951-953.
- Basler CF, Reid AH, Dybing JK, Janczewski TA, Fanning TG, Zheng H, Salvatore M, Perdue ML, Swayne DE, Garcia-Sastre A, Palese P, Taubenberger JK. Sequence of the 1918 pandemic influenza virus nonstructural gene (NS) segment and characterization of recombinant viruses bearing the

1918 NS genes. *Proc Natl Acad Sci USA*. 2001;98:2746-2751.

Baynes-Genis A, Conover CA, Overgaard MT, Bailey KR, Christiansen M, Holmes DR Jr, Virmani R, Oxvig C, Schwartz RS. Pregnancy-associated plasma protein A as a marker of acute coronary syndromes. *N Engl J Med*. 2001;345:1022-1029.

Beach L, Burke A, Chute D, Virmani R. Anomalous origin of 4 coronary ostia from the right sinus of valsalva in a patient with hypertrophic cardiomyopathy. *Arch Pathol Lab Med*. 2001;125:1489-1490.

Beach L, Burke A, Radentz S, Virmani R. Spontaneous fatal rupture of a coronary arterial aneurysm into the right ventricle. *Am J Cardiol*. 2001;88:99-100.

Bender GN, Kende AI, McLarney JK. Intestinal mural stratification: etiopathology, etiology, and the extreme. *Appl Radiol*. 2001;30:38-52.

Bender GN, Maglinte DD, McLarney JH, Rex D, Kelvin FM. Malignant melanoma: patterns of metastasis to the small bowel, reliability of imaging studies, and clinical relevance. *Am J Gastroenterol*. 2001;96:2392-2400.

Berman J, O'Leary TJ. Gastrointestinal stromal tumor workshop. *Hum Pathol*. 2001;32:578-582.

Berrocal T, Gaya F, Arjonilla A, Loneragan GJ. Cystosonography with Levovist versus voiding cystourethrography in the diagnosis and grading of vesicoureteral reflux. *Radiology*. 2001;221:359-365.

Bhoopat L, Eiangleng L, Rugsao S, Frankel SS, Weissman D, Lekawanvijit S, Petchjom S, Thorner P, Bhoopat T. In vivo identification of Langerhans and related dendritic cells infected with HIV-1 subtype E in vaginal mucosa of asymptomatic patients. *Mod Pathol*. 2001;14:1263-1269.

Bijwaard KE, Aguilera NSI, Monczak Y, Trudel M, Taubenberger JK, Lichy JH. Quantitative real-time reverse transcription-PCR assay for cyclin D1 expression: utility in the diagnosis of mantle cell lymphoma. *Clin Chem*. 2001;47:195-201.

Blanchard TW, Santiago NT, Lipscomb TP, Garber RL, McFee WE, Knowles S. Two novel alphaherpesviruses associated with fatal disseminated infections in Atlantic bottlenose dolphins. *J Wildl Dis*. 2001;37:297-305.

Boiselle PM, Rosado de Christenson ML. Fat attenuation lesions of the mediastinum. *J Comput Assist Tomogr*. 2001;25:881-889.

Boni LT, Batenjany MM, Neville ME, Guo Y, Xu L, Wu F, Mason JT, Robb RJ, Popescu MC. Interleukin-2-induced small unilamellar vesicle coalescence. *Biochim Biophys Acta*. 2001;1514:127-138.

Brambilla E, Travis WD, Colby TV, Corrin B, Shimosato Y. The new World Health Organization classification of lung tumours. *Eur Respir J*. 2001;18:1059-1068.

Brunner-La Rocca HP, Vogt PR, Burke AP, Schneider J, Jenni R, Turina MI. A primary cardiac sarcoma with unusual histology and clinical course. *Ann Thorac Surg*. 2001;71:1675-1677.

Burke AP, Farb A, Malcom G, Virmani R. Effect of menopause on plaque morphologic characteristics in coronary atherosclerosis. *Am Heart J*. 2001;141:S58-S62.

Burke A, Farb A, Virmani R. Coronary thrombosis: What's new? *Pathology Case Reviews*. 2001;6:244-252.

Burke AP, Kolodgie FD, Farb A, Weber DK, Malcom GT, Smialek J, Virmani R. Healed plaque ruptures and sudden coronary death: evidence that subclinical rupture has a role in plaque progression. *Circulation*. 2001;103:934-940.

Burke AP, Virmani R. Localized vasculitis. *Semin Diagn Pathol*. 2001;18:59-66.

Burke A, Virmani R. Temporal artery biopsy of giant cell arteritis. *Pathology Case Reviews*. 2001;6:265-273.

Burke AP, Weber DK, Kolodgie FD, Farb A, Taylor AJ, Virmani R. Pathophysiology of calcium deposition in coronary arteries. *Herz*. 2001;26:239-244.

Burkman KD, Moore GE, Peterson MR. Incidence of zoonotic diseases in military working dogs serving in Operations Desert Shield and Desert Storm. *Mil Med*. 2001;166:108-111.

Busch DB, White Ziffer D, Coleman D, Wills L, McDonough HG, Jones NJ. Phenotype of FAECB (Facility for Automated Experiments in Cell Biology) Chinese hamster ovary mutants with minimal UV-sensitivity. *Mutat Res*. 2001;487:31-39.

Cadavid D, Pachner AR, Estanislao L, Patalapati R, Barbour AG. Isogenic serotypes of *Borrelia turicatae* show different localization in the brain and skin of mice. *Infect Immun*. 2001;69:3389-3397.

- Casciotti JA, Walters JL. Military health system patient safety program: a legal foundation for preventing medical errors. *Legal Medicine*. 2001;17-23.
- Cejna M, Virmani R, Jones R, Bergmeister H, Losert U, Xu Z, Yang P, Schoder M, Lammer J. Biocompatibility and performance of the wall-stent and several covered stents in a sheep iliac artery model. *J Vasc Interv Radiol*. 2001;12:351-358.
- Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C. Letter to the editor. *Environ Health Perspect*. 2001;109:A465.
- Chemlal K, De Ridder K, Fonteyne PA, Meyers WM, Swings J, Portaels F. The use of IS2404 restriction fragment length polymorphisms suggests the diversity of *Mycobacterium ulcerans* from different geographical areas. *Am J Trop Med Hyg*. 2001;64:270-273.
- Chemlal K, Huys G, Fonteyne PA, Vincent V, Lopez AG, Rigouts L, Swings J, Meyers WM, Portaels F. Evaluation of PCR-restriction profile analysis and IS2404 restriction fragment length polymorphism and amplified fragment length polymorphism fingerprinting for identification and typing of *Mycobacterium ulcerans* and *M marinum*. *J Clin Microbiol*. 2001;3272-3278.
- Chen J, Yanuck RR III, Abbondanzo SL, Chu W-S, Aguilara NSI. C-Kit (CD117) reactivity in extramedullary myeloid tumor/granulocytic sarcoma. *Arch Pathol Lab Med*. 2001;125:1448-1452.
- Chen Z, Smith KJ, Skelton HG 3rd, Barrett TL, Greenway HT Jr, Lo S-C. Telomerase activity in Kaposi's sarcoma, squamous cell carcinoma, and basal cell carcinoma. *Exp Biol Med (Maywood)*. 2001;226:753-757.
- Chinnery PF, Jones S, Sviland L, Andrews RM, Parsons TJ, Turnbull DM, Bindoff LA. Mitochondrial enteropathy: the primary pathology may not be within the gastrointestinal tract. *Gut*. 2001;48:121-124.
- Chinnery PF, Taylor GA, Brown DT, Howell N, Parsons TJ, Turnbull DM. Mitochondrial DNA control region point mutations in normal and neurodegenerative human brains. *Am J Hum Genet*. 2001;68:529-532.
- Chokkalingam AP, McGlynn KA, Gao YT, Pollak M, Deng J, Sesterhenn IA, Mostofi FK, Fraumeni JF Jr, Hsing AW. Vitamin D receptor gene polymorphisms, insulin-like growth factors, and prostate cancer risk: a population-based case-control study in China. *Cancer Res*. 2001;61:4333-4336.
- Chokkalingam AP, Pollak M, Fillmore CM, Gao YT, Stanczyk FZ, Deng J, Sesterhenn IA, Mostofi FK, Fears TR, Madigan MP, Ziegler RG, Fraumeni JF Jr, Hsing AW. Insulin-like growth factors and prostate cancer: a population-based case-control study in China. *Cancer Epidemiol Biomarkers Prev*. 2001;10:421-427.
- Cina SJ, Brown DK, Smialek JE, Collins KA. A rapid postmortem cardiac troponin T assay: laboratory evidence of sudden cardiac death. *Am J Forensic Med Pathol*. 2001;22:173-176.
- Cohn MA, Frankel SS, Rugpao S, Young MA, Willett G, Tovanabutra S, Khamboonruang C, VanCott T, Bhoopat L, Barrick S, Fox C, Quinn TC, Vahey M, Nelson KE, Weissman D. Chronic inflammation with increased human immunodeficiency virus (HIV) RNA expression in the vaginal epithelium of HIV-infected Thai women. *J Infect Dis*. 2001;184:410-417.
- Colgin LMA, Schulman FY, Dubielzig RR. Multiple epulides in 13 cats. *Vet Pathol*. 2001;38:227-229.
- Collins MT, Riminucci M, Corsi A, Murphey MD, Wientroub S, Bianco P, Robey PG. Angiomas of bone with localized mineralization defect. *J Bone Miner Res*. 2001;16:1750-1753.
- Cunningham RE, Abbondanzo SL, Chu W-S, Emory TS, Sobin LH, O'Leary TJ. Apoptosis, bcl-2 expression, and p53 expression in gastrointestinal stromal/smooth muscle tumors. *Appl Immunohistochem Mol Morphol*. 2001;9:19-23.
- Debiec-Rychter M, Lasota J, Sarlomo-Rikala M, Kordek R, Miettinen M. Chromosomal aberrations in malignant gastrointestinal stromal tumors: correlation with c-KIT gene mutation. *Cancer Genet Cytogenet*. 2001;128:24-30.
- Director-Myska AE, Pogozelski WK, Lofts RS, Prasanna PGS, Hamel CJC, Blakely WF. Quantitative plasmid mixture analysis using the fluorogenic 5'-nuclease polymerase chain reaction assay. *Environ Mol Mutagen*. 2001;37:147-154.
- Drabick JJ, Davis BJ, Byrd JC. Concurrent pernicious anemia and myelodysplastic syndrome. *Ann Hematol*. 2001;80:243.
- Dubey JP, Garner MW, Willette MM, Batey KL, Gardiner CH. Disseminated toxoplasmosis in magpie geese (*Anseranas semipalmata*) with large numbers of tissue cysts in livers. *J Parasitol*. 2001;87:219-223.

- Fanburg-Smith JF, Miettinen M. Low-affinity nerve growth factor in dermatofibrosarcoma protuberans and schwannian and neural tumors: a study of 1130 tumors. *Hum Pathol*. 2001;32:976-983.
- Farb A, Burke AP, Kolodgie FD, Virmani R. Update on the pathology of sudden coronary death. *Cardiac Electrophysiology Review*. 2001;5:373-377.
- Farb A, Burke AP, Virmani R. Evaluation of intravascular stents. *Pathology Case Reviews*. 2001;6:253-264.
- Farb A, Heller PF, Shroff S, Cheng L, Kolodgie FD, Carter AJ, Scott DS, Froehlich J, Virmani R. Pathological analysis of local delivery of paclitaxel via a polymer-coated stent. *Circulation*. 2001;104:473-479.
- Farb A, Shroff S, John M, Sweet W, Virmani R. Late arterial responses (6 and 12 months) after ^{32}P β -emitting stent placement: sustained intimal suppression with incomplete healing. *Circulation*. 2001;103:1912-1919.
- Farley JH, Hines JF, Taylor RR, Carlson JW, Parker MF, Kost ER, Rogers SJ, Harrison TA, Macri CI, Parham GP. Equal care ensures equal survival for African-American women with cervical carcinoma. *Cancer*. 2001;9:869-873.
- Farshid G, Moinfar F, Meredith DJ, Peitersen S, Tavassoli FA. Spindle cell ductal carcinoma in situ: an unusual variant of ductal intra-epithelial neoplasia that simulates ductal hyperplasia or a myoepithelial proliferation. *Virchows Arch*. 2001;439:70-77.
- Fernandez-Prada CM, Nikolich M, Vemulapalli R, Sriranganathan N, Boyle SM, Schurig GG, Hadfield TL, Hoover DL. Deletion of wboA enhances activation of the lectin pathway of complement in *Brucella abortus* and *Brucella melitensis*. *Infect Immun*. 2001;69:4407-4416.
- Fetsch JF, Laskin WB, Miettinen M. Superficial acral fibromyxoma: a clinicopathologic and immunohistochemical analysis of 37 cases of a distinctive soft tissue tumor with a predilection for the fingers and toes. *Hum Pathol*. 2001;32:704-714.
- Fischell TA, Virmani R. Intracoronary brachytherapy in the porcine model—A different animal. *Circulation*. 2001;104:2388-2390.
- Fisher SI, Nandedkar MA, Williams BH, Abbondanzo SL. Telehematopathology in a clinical consultative practice. *Hum Pathol*. 2001;32:1327-1333.
- Fitzgerald PJ, Takagi A, Moore MP, Hayase M, Kolodgie FD, Corl D, Nassi M, Virmani R, Yock PG. Intravascular sonotherapy decreases neointimal hyperplasia after stent implantation in swine. *Circulation*. 2001;103:1828-1831.
- Fixott RH, Arendt D, Chrz B, Filippi J, McGivney J, Warnick A. Role of the dental team in mass fatality incidents. *Dent Clin North Am*. 2001;45:271-292.
- Flaherty KR, Colby TV, Travis WD, Toews GB, Flint A, Strawderman RL III, Jain A, Lynch JP III, Martinez FJ. Prognostic value of fibroblastic foci in patients with usual interstitial pneumonia. *Chest*. 2001;120:S76-S77.
- Flaherty KR, Martinez FJ, Travis WD, Lynch JP. Nonspecific interstitial pneumonia (NSIP). *Semin Respir Crit Care Med*. 2001;22:423-434.
- Flaherty KR, Travis WD, Colby TV, Toews GB, Kazerooni EA, Gross BH, Jain A, Strawderman RL, Flint A, Lynch JP, Martinez FJ. Histopathologic variability in usual and nonspecific interstitial pneumonias. *Am J Respir Crit Care Med*. 2001;164:1722-1727.
- Folpe AL, Fanburg-Smith JC, Miettinen M, Weiss SW. Atypical and malignant glomus tumors: analysis of 52 cases, with a proposal for the reclassification of glomus tumors. *Am J Surg Pathol*. 2001;25:1-12.
- Furlong MA, Fanburg-Smith JC. Pleomorphic rhabdomyosarcoma in children: four cases in the pediatric age group. *Ann Diagn Pathol*. 2001;5:199-206.
- Furlong MA, Fanburg-Smith JC, Miettinen M. The morphologic spectrum of hibernoma: a clinicopathologic study of 170 cases. *Am J Surg Pathol*. 2001;25:809-814.
- Furlong MA, Mentzel T, Fanburg-Smith JC. Pleomorphic rhabdomyosarcoma in adults: a clinicopathologic study of 38 cases with emphasis on morphologic variants and recent skeletal muscle-specific markers. *Mod Pathol*. 2001;14:595-603.
- Gabriel MN, Huffine EF, Ryan JH, Holland MM, Parsons TJ. Improved MtDNA sequence analysis of forensic remains using a "mini-primer set" amplification strategy. *J Forensic Sci*. 2001;46:247-253.
- Gadwal SR, Gannon FH, Fanburg-Smith JC, Becoskie EM, Thompson LD. Primary osteosarcoma of

- the head and neck in pediatric patients: a clinicopathologic study of 22 cases. *Cancer*. 2001;91:598-605.
- Gaertner EM, Tsokos M, Derringer GA, Neuhauser TS, Arciero C, Andriko JW. Interdigitating dendritic cell sarcoma: a report of four cases and review of the literature. *Am J Clin Pathol*. 2001;115:589-597.
- Gannon FH, Glaser D, Caron R, Thompson LD, Shore EM, Kaplan FS. Mast cell involvement in fibrodysplasia ossificans progressiva. *Hum Pathol*. 2001;32:842-848.
- Gomez A, Mve-Obiang A, Vray B, Rudnicka W, Shamputa IC, Portaels F, Meyers WM, Fonteyne PA, Realini L. Detection of phospholipase C in nontuberculous mycobacteria and its possible role in hemolytic activity. *J Clin Microbiol*. 2001;39:1396-1401.
- Gospodarowicz M, Mackillop W, O'Sullivan B, Sobin L, Henson D, Hutter RV, Wittekind C. Prognostic factors in clinical decision making: the future. *Cancer*. 2001;91(suppl):1688-1695.
- Gozukara EM, Khan SG, Metin A, Emmert S, Busch DB, Shahnavi T, Coleman DM, Miller M, Chinsomboon N, Stefanini M, Kraemer KH. A stop codon in xeroderma pigmentosum group C families in Turkey and Italy: molecular genetic evidence for a common ancestor. *J Invest Dermatol*. 2001;117:197-204.
- Graham JM Jr, Anyane-Yeboah K, Raams A, Appeldoorn E, Kleijer WJ, Garritsen VH, Busch D, Edersheim TG, Jaspers NG. Cerebro-oculo-facio-skeletal syndrome with a nucleotide excision-repair defect and a mutated XPD gene, with prenatal diagnosis in a triplet pregnancy. *Am J Hum Genet*. 2001;69:291-300.
- Grieshaber AF, Moore KA, Levine B. The detection of psilocin in human urine. *J Forensic Sci*. 2001;46:627-630.
- Gupta MK, Levin M, Aguilera NS, Pastores GM. Littoral cell angioma of the spleen in a patient with Gaucher disease. *Am J Hematol*. 2001;68:61.
- Gyure KA, Durham R, Stewart WF, Smialek JE, Troncoso JC. Intraneuronal α -amyloid precedes development of amyloid plaques in Down syndrome. *Arch Pathol Lab Med*. 2001;125:489-492.
- Gyure KA, Thompson LDR, Morrison AL. A clinicopathological study of 15 patients with neuroglial heterotopias and encephaloceles of the middle ear and mastoid region. *Laryngoscope*. 2001;110:1731-1735.
- Hadfield TL, Turell M, Dempsey MP, David J, Park EJ. Detection of West Nile virus in mosquitoes by RT-PCR. *Mol Cell Probes*. 2001;15:147-150.
- Heffess CS, Thompson LD. Minimally invasive follicular thyroid carcinoma. *Endocr Pathol*. 2001;12:417-422.
- Heffner DK. The end of surgical pathology. *Ann Diagn Pathol*. 2001;5:368-373.
- Henry JM. Influenza RNA not detected in archival brain tissues from acute encephalitis lethargica cases or in postencephalitic Parkinson cases [reply]. *J Neuropathol Exp Neurol*. 2001;112:1121-1122.
- Hill AC, Maroney TP, Virmani R. Facilitated coronary anastomosis using a nitinol U-clip device: bovine model. *J Thorac Cardiovasc Surg*. 2001;121:859-870.
- Hoang MP, Murakata LA, Albores-Saavedra J. Metaplastic lesions of the extrahepatic bile ducts: a morphologic and immunohistochemical study. *Mod Pathol*. 2001;14:1119-1125.
- Hobbs CM, Lowry MA, Owen D, Sobin LH. Anal gland carcinoma. *Cancer*. 2001;92:2045-2049.
- Hong IS, Krafft AE. Primary effusion lymphoma (PEL) with herpesvirus-8 DNA in patients with HIV-seropositive and hepatitis C virus infection: a report of two cases. *AIDS Reader*. 11:418-422.
- Hsing AW, Chen C, Chokkalingam AP, Gao YT, Dightman DA, Nguyen HT, Deng J, Cheng J, Sesterhenn IA, Mostofi FK, Stanczyk FZ, Reichardt JK. Polymorphic markers in the SRD5A2 gene and prostate cancer risk: a population-based case-control study. *Cancer Epidemiol Biomarkers Prev*. 2001;10:1077-1082.
- Huang H, Virmani R, Younis H, Burke AP, Kamm RD, Lee RT. The impact of calcification on the biomechanical stability of atherosclerotic plaques. *Circulation*. 2001;103:1051-1056.
- Hunninghake G, Zimmerman MB, Mahurin D, Schwartz D, King TE, Lynch J, Hegele R, Hogg J, Waldron J, Colby T, Muller N, Lynch D, Galvin J, Gross B, Toews G, Helmers R. Utility of lung biopsy for the diagnosis of idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med*. 2001;164:193-196.
- Iyama K, Zhang S, Lo S-C. Effects of mycoplasmal LAMPs on receptor responses to steroid hormones in mammalian cells. *Curr Microbiol*. 2001;43:163-169.

- John M, Shroff S, Farb A, Virmani R. In vivo cellular responses to 32P beta-emitting stents. *Cardiovasc Radiat Med*. 2001;2:55-56.
- Kaar JF. Genetic data, privacy, and discrimination. *Legal Medicine*. 2001;42-47.
- Kalasinsky KS, Bosy TZ, Schmunk GA, Reiber G, Anthony RM, Furukawa Y, Guttman M, Kish SJ. Regional distribution of methamphetamine in autopsied brain of chronic human methamphetamine users. *Forensic Sci Int*. 2001;116:163-169.
- Kalasinsky KS, Dixon MM, Schmunk GA, Kish SJ. Blood, brain, and hair GHB concentrations following fatal ingestion. *J Forensic Sci*. 2001;46:728-730.
- Kaplan KJ, Goodman ZD, Ishak KG. Eosinophilic granuloma of the liver: a characteristic lesion with relationship to visceral larva migrans. *Am J Surg Pathol*. 2001; 25:1316-1321.
- Kardon DE, Thompson LD, Przygodzki RM, Heffess CS. Adenosquamous carcinoma of the pancreas: a clinicopathologic series of 25 cases. *Mod Pathol*. 2001;14:443-451.
- Kim HS, Waksman R, Kollum M, Bhargava B, Kent KM, Mintz GS, Kolodgie FD, Virmani R. Edge stenosis after intracoronary radiotherapy: angiographic, intravascular, and histologic findings. *Circulation*. 2001;103:2219-2220.
- Kish SJ, Kalasinsky KS, Derkach P, Schmunk GA, Guttman M, Ang L, Adams V, Furukawa Y, Haycock JW. Striatal dopaminergic and serotonergic markers in human heroin users. *Neuropsychopharmacology*. 2001;24:561-567.
- Kish SJ, Kalasinsky KS, Schmunk G, Furukawa Y, Guttman M, Ang L. Dopaminergic changes in human brain following acute exposure to gamma-hydroxybutyrate. *Neurology*. 2001;56:1602-1603.
- Kittiniyom K, Gorse KM, Dalbague F, Lichy JH, Taubenberger JK, Newsham IF. Allelic loss on chromosome band 18p11.3 occurs early and reveals heterogeneity in breast cancer progression. *Breast Cancer Res*. 2001;3:192-198.
- Kiuru-Kuhlefelt S, El-Rifai W, Fanburg-Smith J, Kere J, Miettinen M, Knuutila S. Concomitant DNA copy number amplification at 17q and 22q in dermatofibrosarcoma protuberans. *Cytogenet Cell Genet*. 2001;92:192-195.
- Koeller KK. William Moreau Thomspon, MD, and Andre J. Duerinckx, MD, PhD, Armed Forces Institute of Pathology 2001-2002 distinguished scientists. *Radiology*. 2001;220:5-6.
- Koeller KK, Henry JM. From the archives of the AFIP. Superficial gliomas: radiologic-pathologic correlation. Armed Forces Institute of Pathology. *Radiographics*. 2001;21:1533-1556.
- Kokkinakis D, Watson ML, Honig LS, Rushing EJ, Mickey BE, Schold SC. Characterization of initiated cells in N-methylnitrosourea induced carcinogenesis of the central nervous system in the adult rat. *J Neurooncol*. 2001;99:112.
- Kolodgie FD, Burke AP, Farb A, Gold HK, Yuan J, Narula J, Finn AV, Virmani R. The thin-cap fibroatheroma: a type of vulnerable plaque: the major precursor lesion to acute coronary syndromes. *Curr Opin Cardiol*. 2001;16:285-292.
- Kolodgie FD, Narula J, Haider N, Virmani R. Apoptosis in atherosclerosis: Does it contribute to plaque instability? *Cardiol Clin*. 2001;19:127-139.
- Komaki R, Chasen MH, Travis WD, Putnam JB, Fossella FV, Byhardt RW, Ro JY. Cancer of the lung: oncodiagnosis. *Radiographics*. 2001;21:1573-1596.
- Krafft AE, Kulesh D. Applying molecular biological techniques to detecting biological agents. *Clin Lab Med*. 2001;21:631-660.
- Kuklo TR, Islinger RB, Owens BD, Murphey MD, Berrey BH, Temple HT. Pseudotumors presenting in nonhemophiliacs. *Orthopedics*. 2001;24:483-486.
- Kumaki F, Matsui K, Kawai T, Ozeki Y, Yu Z-X, Ferrans VJ, Travis WD. Expression of matrix metalloproteinases in invasive pulmonary adenocarcinoma with bronchioloalveolar component and atypical adenomatous hyperplasia. *Am J Pathol*. 2001;159:2125-2135.
- Kuo WP, Sirois DA, Pemble CW. Locally aggressive solitary fibrous tumor in the infraorbital region: a case report and review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2001;92:308-311.
- Kweon YO, Goodman ZD, Dienstag JL, Schiff ER, Brown NA, Burkhardt E, Schoonhoven R, Brenner DA, Fried MW. Decreasing fibrogenesis: an immunohistochemical study of paired liver biopsies following lamivudine therapy for chronic hepatitis B. *J Hepatol*. 2001;35:749-755.
- Lacey JV Jr, Deng J, Dosemeci M, Gao YT, Mostofi F, Sesterhenn IA, Xie T, Hsing AW. Prostate cancer, benign prostatic hyperplasia and physical activity in Shanghai, China. *Int J Epidemiol*.

2001;30:341-349.

Laskin WB, Fetsch JF, Tavassoli FA. Superficial cervicovaginal myofibroblastoma: fourteen cases of a distinctive mesenchymal tumor arising from the specialized subepithelial stroma of the lower female genital tract. *Hum Pathol.* 2001;32:715-725.

Lasota J, Fetsch JF, Wozniak A, Wasag B, Sciort R, Miettinen M. The neurofibromatosis type 2 gene is mutated in perineurial cell tumors: a molecular genetic study of eight cases. *Am J Pathol.* 2001;158:1223-1229.

Layne SP, Beugelsdijk TJ, Taubenberger JK, Cox NJ, Gust ID, Hay AJ, Tashiro M, Lavanchy D. Global laboratory against influenza [invited editorial]. *Science.* 2001;293:1729.

LeBeau MA, Miller ML, Levine B. Effect of storage temperature on endogenous GHB levels in urine. *Forensic Sci Int.* 2001;119:161-167.

Lee JR, Joshi V, Griffin JW, Lasota J, Miettinen M. Gastrointestinal autonomic nerve tumor: immunohistochemical and molecular genetic identity with gastrointestinal stromal tumors. *Am J Surg Pathol.* 2001;25:979-987.

Lenart MJ. Fetal tissue and stem cell research – a reasoned discussion. *Legal Medicine.* 2001;36-41.

Levine B, Moore KA, Fowler D. Interaction between carbon monoxide and ethanol in fire fatalities. *Forensic Sci Int.* 2001;124:115-116.

Levy AD. Noninvasive imaging approach to the patient with suspected hepatobiliary disease. *Techniques in Vascular and Interventional Radiology.* 2001;4:132-140.

Levy AD, Abbott RM, Rohrmann CA, Frazier AA, Kende A. Gastrointestinal hemangiomas: imaging findings with pathologic correlation in pediatric and adult patients. *AJR Am J Roentgenol.* 2001;177:1073-1081.

Levy AD, Murakata LA, Rohrmann CA Jr. Gallbladder carcinoma: radiologic-pathologic correlation. *Radiographics.* 2001;21:295-314.

Levy AD, Rohrmann CA Jr. Author's response [invited commentary]. *Radiographics.* 2001;21:924-926.

Levy AD, Rohrmann CA. Gastrointestinal Behçet's syndrome [invited commentary]. *Radiographics.* 2001;21:924-925.

Levy AD, Ros PR. Hepatic adenomas: imaging findings with pathologic correlation [invited commentary]. *Radiographics.* 2001;21:892-894.

Levy AD, Ros PR. Radiologic spectrum of intraductal papillary mucinous tumor of the pancreas [invited commentary]. *Radiographics.* 2001;21:337-340.

Li SQ, O'Leary TJ, Buchner S-B, Przygodzki RM, Sobin LH, Erozan YS, Rosenthal DL. Fine needle aspiration of gastrointestinal stromal tumors. *Acta Cytol.* 2001;45:9-17.

Liang Q, Davis PA, Thompson BH, Simpson JT. High-performance liquid chromatography multiplex detection of two single nucleotide mutations associated with hereditary hemochromatosis. *J Chromatogr B Biomed Sci Appl.* 2001;754:265-270.

Liang Q, Dedon PC. Cu(II)/H₂O₂-induced DNA damage is enhanced by packaging of DNA as a nucleosome. *Chem Res Toxicol.* 2001;14:416-422.

Lindsay KL, Trepo C, Heintges T, Shiffman ML, Gordon SC, Hoefs JC, Schiff ER, Goodman ZD, Laughlin M, Yao R, Albrecht JK for the Hepatitis Interventional Therapy Group. A randomized, double-blind trial comparing pegylated interferon alfa-2b to interferon alfa-2b as initial treatment for chronic Hepatitis C. *Hepatology.* 2001;34:395-403.

Lipscomb TP, Mense MG, Habecker PL, Taubenberger JK, Schoelkopf R. Morbilliviral dermatitis in seals. *Vet Pathol.* 2001;38:724-726.

Loeffler KU, Sastry SM, McLean IW. Is age-related macular degeneration associated with pinguecula or scleral plaque formation? *Curr Eye Res.* 2001;23:33-37.

Lonergan GJ, Cline DB, Abbondanzo SL. Sick cell anemia. *Radiographics.* 2001;21:971-994.

Loos BM, Wieneke JA, Thompson LD. Laryngeal angiosarcoma: a clinicopathologic study of five cases with a review of the literature. *Laryngoscope.* 2001;111:1197-1202.

Lynch JP, Wurfel M, Flaherty K, White E, Martinez FJ, Travis WD, Raghu G. Usual interstitial pneumonia. *Semin Respir Crit Care Med.* 2001;22:357-386.

Madonna AJ, Hadfield TL, Voorhees KJ. Rapid detection of taxonomically important fatty acid methyl esters and steroid biomarkers using in situ thermal hydrolysis/methylation mass spectrometry (THM/MS): implications for bioaerosol detection. *J Anal Appl Pyrol.* 2001;61:65-89.

- Maglinte DD, Kelvin FM, Rowe MG, Bender GN, Rouch DM. Small-bowel obstruction: optimizing radiologic investigation and nonsurgical management. *Radiology*. 2001;218:39-46
- Maitra A, Murakata LA, Albores-Saavedra J. Immunoreactivity for hepatocyte paraffin 1 antibody in hepatoid adenocarcinomas for the gastrointestinal tract. *Am J Clin Pathol*. 2001;115:689-694.
- Mallak C. Saddam's revenge. *Am J Forensic Med Pathol*. 2001;22:43-45.
- Man YG, Kuhls EA, Bratthauer GL, Moinfar F, Tavassoli FA. Multiple use of slab gels in sequencing apparatus for separation of polymerase chain reaction products. *Electrophoresis*. 2001;22:1915-1919.
- Man YG, Mannion C, Kuhls E, Moinfar F, Bratthauer GL, Albores-Saavedra J, Tavassoli FA. Allelic losses at 3p and 11p are detected in both epithelial and stromal components of cervical small-cell neuroendocrine carcinoma. *Applied Immunohistochemistry and Molecular Morphology*. 2001;9:340-345.
- Man YG, Moinfar F, Bratthauer GL, Kuhls EA, Tavassoli FA. An improved method for DNA extraction from paraffin sections. *Pathol Res Pract*. 2001;197:635-642.
- Manns MP, McHutchison JG, Gordon SC, Rustgi VK, Schiffman M, Reindollar R, Goodman ZD, Koury K, Ling MH, Albrecht JK. Peginterferon alfa-2b plus ribavirin compared with interferon alfa-2b plus ribavirin for initial treatment of chronic hepatitis C: a randomized trial. *Lancet*. 2001;358:958-965.
- Marino L, Murphy TL, Deweerd AL, Morris JA, Fobbs AJ, Humblot N, Ridgway SH, Johnson JI. Anatomy and three-dimensional reconstructions of the brain of the white whale (*Delphinapterus leucas*) from magnetic resonance images. *Anat Rec*. 2001;262:429-439.
- Marovich M, Grouard-Vogel G, Louder M, Eller M, Sun W, Wu S-J, Putvatana R, Murphy J, Tassaneetrithep B, Burgess T, Birx D, Hayes C, Schlesinger-Frankel S, Mascola J. Human dendritic cells as targets of dengue virus infection. *J Invest Dermatol Symp Proc*. 2001;6:219-224.
- Marrogi AJ, Khan MA, van Gijssel HE, ...Ishak KG, Harris CC. Oxidative stress and p53 mutations in the carcinogenesis of iron overload-associated hepatocellular carcinoma. *J Natl Cancer Inst*. 2001;93:1652-1655.
- Matusi K, Beasley MB, Nelson WK, Barnes PM, Bechtle J, Falk R, Ferrans VJ, Moss J, Travis WD. Prognostic significance of pulmonary lymphangioleiomyomatosis histologic score. *Am J Surg Pathol*. 2001;25:479-484.
- Matsui K, Travis WD, Gonzalez R, Terzian JA, Rosai J, Moss J, Ferrans VJ. Association of lymphangioleiomyomatosis (LAM) with endosarptingiosis in the retroperitoneal lymph nodes: report of two cases. *Int J Surg Pathol*. 2001;9:155-162.
- McCall S, Henry JM, Reid AH, Taubenberger JK. Influenza RNA not detected in archival brain tissues from acute encephalitis lethargica cases or in postencephalitic Parkinson cases. *J Neuropathol Exp Neurol*. 2001;60:696-704.
- McCall SA, Lichy JH, Bijwaard KE, Aguilera NS, Chu W-S, Taubenberger JK. Epstein-Barr virus detection in ductal carcinoma of the breast. *J Natl Cancer Int*. 2001;93:148-150.
- Mena H, Morrison AL, Jones RV, Gyure KA. Central neurocytomas express photoreceptor differentiation. *Cancer*. 2001;91:136-143.
- Mense MG, Van De Verg LL, Bhattacharjee AK, Garrett JL, Hart JA, Lindler LE, Hadfield TL, Hoover DL. Bacteriologic and histologic features in mice after intranasal inoculation of *Brucella melitensis*. *Am J Vet Res*. 2001;62:398-405.
- Mense MG, Van De Verg LL, Bhattacharjee AK, Garrett JL, Hart JA, Lindler LE, Hadfield TL, Hoover DL. Bacteriologic and histologic features in mice after intranasal inoculation of *Brucella melitensis* [erratum]. *Am J Vet Res*. 2001;62:642.
- Michal M, Fanburg-Smith JC, Mentzel T, Kutzner H, Requena L, Zamecnik M, Miettinen M. Dendritic cell neurofibroma with pseudorosettes: a report of 18 cases of a distinct and hitherto unrecognized neurofibroma variant. *Am J Surg Pathol*. 2001;25:587-594.
- Michal M, Fanburg-Smith J, Mentzel T, Kutzner H, Requena L, Zamecnik M, Miettinen M. Dendritic cell neurofibroma with pseudorosettes: two tumors in a patient with evidence of neurofibromatosis [letter]. *Am J Surg Pathol*. 2001;25:1458-1459.
- Miettinen M. Are desmoid tumors kit positive[letter]? *Am J Surg Pathol*. 2001;25:549-550.
- Miettinen M, Fernandez M, Franssila K, Gatalica Z, Lasota J, Sarlomo-Rikala M. Microphthalmia transcription factor in the immunohistochemical diagnosis of metastatic melanoma: comparison with four other melanoma markers. *Am J Surg Pathol*. 2001;25:205-211.

- Miettinen M, Furlong M, Sarlomo-Rikala M, Burke A, Sobin LH, Lasota J. Gastrointestinal stromal tumors, intramural leiomyomas, and leiomyosarcomas in the rectum and anus. *Am J Surg Pathol.* 2001;25:1121-1133.
- Miettinen M, Lasota J. Gastrointestinal stromal tumors—definition, clinical, histological, immunohistochemical, and molecular genetic features and differential diagnosis. *Virchows Arch.* 2001;438:1-12.
- Miettinen M, Limon J, Niezabitowski A, Lasota J. Calretinin and other mesothelioma markers in synovial sarcoma: analysis of antigenic similarities and differences with malignant mesothelioma. *Am J Surg Pathol.* 2001;25:610-617.
- Miettinen M, Sarlomo-Rikala M, Sobin LH. Mesenchymal tumors of muscularis mucosae of colon and rectum are benign leiomyomas that should be separated from gastrointestinal stromal tumors: a clinicopathologic and immunohistochemical study of eighty-eight cases. *Mod Pathol.* 2001;14:950-956.
- Miettinen M, Sarlomo-Rikala M, Sobin LH, Lasota J. Gastrointestinal stromal tumors of the rectum: a clinicopathologic, immunohistochemical and molecular genetic study of 144 cases. *Am J Surg Pathol.* 2001;25:1121-1133.
- Miettinen M, Shekitka KM, Sobin LH. Schwannomas in the colon and rectum: a clinicopathologic and immunohistochemical study of 20 cases. *Am J Surg Pathol.* 2001;25:846-855.
- Miettinen M, Sobin LH. Gastrointestinal stromal tumors in the appendix: a clinicopathologic and immunohistochemical study of four cases. *Am J Surg Pathol.* 2001;25:1433-1437.
- Milde P, Guccion JG, Kelly J, Locatelli E, Jones RV. Adult polyglucosan body disease: diagnosis by sural nerve and skin biopsy. *Arch Pathol Lab Med.* 2001;125:519-522.
- Milde P, Lupton GP. Melanoma or not? *Dermatopathology Practical and Conceptual.* 2001;7:127-128.
- Miura N, Onuki N, Rath A, Virmani A, Nakamoto S, Kishimoto Y, Murawaki Y, Kawasaki H, Hasegawa J, Oshimura M, Travis WD, Gazdar AF. hTR repressor-related gene on human chromosome 10p15.1. *Br J Cancer.* 2001;85:1510-1514.
- Mohan N, Edwards ET, Cupps TR, Oliverio PJ, Sandberg G, Crayton H, Richert JR, Siegel JN. Demyelination occurring during anti-tumor necrosis factor alpha therapy for inflammatory arthritides. *Arthritis Rheum.* 2001;44:2862-2869.
- Mohler ER III, Gannon F, Reynolds C, Zimmerman R, Keane MG, Kaplan FS. Bone formation and inflammation in cardiac valves. *Circulation.* 2001;103:1522-1528.
- Moore GE, Burkman KD, Carter MN, Peterson MR. Causes of death or reasons for euthanasia in military working dogs: 927 cases (1993-1996). *J Am Vet Med Assoc.* 2001;15:209-214.
- Moore KA, Addison J, Levine B, Smialek JE. Applicability of opiate cutoffs to opiate intoxication cases [letter]. *J Anal Toxicol.* 2001;25:657-658.
- Moore KA, Sklerov J, Levine B, Jacobs AJ. Urine concentrations of ketamine and norketamine following illegal consumption. *J Anal Toxicol.* 2001;25:583-587.
- Moran CA, Suster S, Abbondanzo SL. Cutaneous B-cell lymphoma with signet ring-cell morphology: a clinicopathologic and immunohistochemical study of three cases. *Am J Dermatopathol.* 2001;23:181-184.
- Moron CG, Popov VL, Feng HM, Wear D, Walker DH. Identification of the target cells of *Orientia tsutsugamushi* in human cases of scrub typhus. *Mod Pathol.* 2001;14:752-759.
- Moshari A, Bloom EE, McLean IW, Buckwalter NR. Ectopic chordoma with orbital invasion. *Am J Ophthalmol.* 2001;131:400-401.
- Moshari A, Cheeseman EW, McLean IW. Totally necrotic choroidal and ciliary body melanomas: associations with prognosis, episcleritis, and scleritis. *Am J Ophthalmol.* 2001;131:232-236.
- Moshari A, McLean IW. Uveal melanoma: mean of the longest nucleoli measured on silver-stained sections. *Invest Ophthalmol Vis Sci.* 2001;42:1160-1163.
- Moshari A, McLean IW, Dodds MT, Damiano RE, McEvoy PL. Chorioretinitis after keratitis caused by *Acanthamoeba*: case report and review of the literature. *Ophthalmology.* 2001;108:2232-2236.
- Muldoon MP, Padgett DE, Sweet DE, Deuster PA, Mack GR. Femoral neck stress fractures and metabolic bone disease. *J Orthop Trauma.* 2001;15:181-185.
- Murakata LA, Ishak KG. Expression of inhibin-a by granular cell tumors of the gallbladder and extrahepatic bile ducts. *Am J Surg Pathol.* 2001;25:1200-1203.
- Murphey MD. Common osteoid lesions of bone. *Journal of the Hong Kong College of Radiologists.*

2001;3(suppl):187-191.

Murphey MD. Fundamental concepts of musculoskeletal neoplasm: CT and MRI. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):184-186.

Murphey MD. Imaging of arthritis I: approach and inflammatory disease. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):177-179.

Murphey MD. Imaging of arthritis II: osteoarthritis, crystal disease, and neuropathic arthropathy. *Journal of the Hong Kong College of Radiologists*. 2001;3(suppl):180-183.

Murphey MD, Nomikos GC, Flemming DJ, Gannon FH, Temple HT, Kransdorf MJ. From the archives of AFIP. Imaging of giant cell tumor and giant cell reparative granuloma of bone: radiologic-pathologic correlation. *Radiographics*. 2001;21:1283-1309.

Nassar H, Wallis T, Andea A, Dey J, Adsay V, Visscher D. Clinicopathologic analysis of invasive micropapillary differentiation in breast carcinoma. *Mod Pathol*. 2001;14:836-841.

Neuhauser TS, Derringer GA, Thompson LD, Fanburg-Smith JC, Aguilera NS, Andriko J, Chu W-S, Abbondanzo SL. Splenic inflammatory myofibroblastic tumor (inflammatory pseudotumor): a clinicopathologic and immunophenotypic study of 12 cases. *Arch Pathol Lab Med*. 2001;125:379-385.

Nicholson SA, Okby NT, Khan MA, Welsh JA, McMenamin MG, Travis WD, Jett JR, Tazelaar HD, Trastek V, Pairolero PC, Corn PG, Herman JG, Liotta LA, Caporaso NE, Harris CC. Alterations of p14ARF, p53, and p73 genes involved in the E2F-1-mediated apoptotic pathways in non-small cell lung carcinoma. *Cancer Res*. 2001;61:5636-5643.

Noonan F, Recio J, Tahayama H, Duray P, Anver M, Rush WL, Lindner G, DeFabo E, Merlino G. Neonatal sunburn and melanoma in mice. *Nature*. 2001; 413:271-272.

Norwood C, Smith KJ, Neafie R, Skelton H. Are cutaneous reactions to fly larvae mediated by CD4+, TIA+ NK1.1 T cells? *J Cutan Med Surg*. 2001;5:400-405.

Nzeako UC, Sobin LH. Intestinal involvement by metastatic malignant melanoma [letter]. *Gastrointest Endosc*. 2001;53:403.

O'Leary TJ. Standardization in immunohistochemistry. *Appl Immunohistochem Mol Morphol*. 2001;9:3-8.

Ong JP, Younossi ZM, Gramlich T, Goodman Z, Mayes J, Sarbah S, Yen-Lieberman B. Interferon alpha 2B and ribavirin in severe recurrent cholestatic hepatitis C. *Transplantation*. 2001;71:1486-1488.

Ormseth EJ, Holtzmuller KC, Goodman ZD, Colonna JO, Batty DS, Sjogren MH. Hepatic decompensation associated with lamivudine: a case report and review of lamivudine-induced hepatotoxicity. *Am J Gastroenterol*. 2001;96:1619-1622.

Ozdemirli M, Fanburg-Smith JC, Hartmann DP, Azumi N, Miettinen M. Differentiating lymphoblastic lymphoma and Ewing's sarcoma: lymphocyte markers and gene rearrangement. *Mod Pathol*. 2001;14:1175-1182.

Paal E, Miettinen M. Retroperitoneal leiomyomas: a clinicopathologic and immunohistochemical study of 56 cases with a comparison to retroperitoneal leiomyosarcomas. *Am J Surg Pathol*. 2001;25:1355-1363.

Paal E, Thompson LD, Frommelt RA, Przygodzki RM, Heffess CS. A clinicopathologic and immunohistochemical study of 35 anaplastic carcinomas of the pancreas with a review of the literature. *Ann Diagn Pathol*. 2001;5:129-140.

Paquette EL, Connelly RR, Sesterhenn IA, Zhang W, Sun L, Paquette L, Greenspan MD, McLeod DG, Moul JW. Improvements in pathologic staging for African-American men undergoing radical retropubic prostatectomy during the prostate specific antigen era. *Cancer*. 2001;92:2673-2679.

Parsons TJ, Coble MD. Increasing the forensic discrimination of mitochondrial DNA testing through analysis of the entire mitochondrial DNA genome. *Croat Med J*. 2001;42:304-309.

Patterson-Kane JC, Schulman FY, Santiago N, McKinney L, Davis C. Mixed germ cell tumor in the eye of a dog. *Vet Pathol*. 2001;38:712-714.

Paul BD, Cole KA. Cathinone (Khat) and methcathinone (CAT) in urine specimens: a gas chromatography mass spectrometric detection procedure. *J Anal Toxicol*. 2001;25:525-530.

Pentecost JO, Sahn DJ, Thornburg BL, Gharib M, Baptista A, Thornburg KL. Graphical and stereolithographic models of the developing human heart lumen. *Comput Med Imaging Graph*. 2001;25:459-463.

Perera P-Y, Mayadas TN, Takeuchi O, Akira S, Zaks-Zilberman M, Goyert SM, Vogel SN. CD11b/

- CD18 acts in concert with CD14 and Toll-like receptor (TLR)4 to elicit full lipopolysaccharide and taxol-inducible gene expression. *J Immunol.* 2001;166:574-581.
- Phinney LT, Gardner JW, Kark JA, Wenger CB. Long-term follow-up after exertional heat illness during recruit training. *Med Sci Sports Exerc.* 2001;33:1443-1448.
- Pickhardt PJ, Siegel CL, McLarney JK. Collecting duct carcinoma of the kidney: Are imaging findings suggestive of the diagnosis? *AJR Am J Roentgenol.* 2001;176:627-633
- Portaels F, Chemlal K, Elsen P, Johnson PD, Hayman JA, Hibble J, Kirkwood R, Meyers WM. *Mycobacterium ulcerans* in wild animals. *Rev Sci Tech.* 2001;20:252-264.
- Potter K, Kidder LH, Levin IW, Lewis EN, Spencer RG. Imaging of collagen and proteoglycan in cartilage sections using Fourier transform infrared spectral imaging. *Arthritis Rheum.* 2001;44:846-855.
- Potter K, Landis WJ, Spencer RG. Histomorphometry of the embryonic avian growth plate by proton nuclear magnetic resonance microscopy. *J Bone Miner Res.* 2001;16:1092-1100.
- Poynard T, Ratziu V, Charlotte F, Goodman Z, McHutchison J, Albrecht J. Rates and risk factors of liver fibrosis in patients with chronic hepatitis C. *J Hepatol.* 2001;34:730-739.
- Przygodzki RM, Goodman ZD, Rabin L, Centeno JA, Liu Y, Hubbs AE, O'Leary TJ. Hemochromatosis (HFE) gene sequence analysis of formalin-fixed, paraffin-embedded liver biopsy specimens. *Mol Diagn.* 2001;6:227-232.
- Przygodzki RM, Koss MN, O'Leary TJ. Pleomorphic (giant and/or spindle cell) carcinoma of lung shows a high percentage of variant CYP1A12. *Mol Diagn.* 2001;6:109-115.
- Rao NA, Hidayat AA. Endogenous mycotic endophthalmitis: variations in clinical and histopathologic changes in candidiasis compared with aspergillosis. *Am J Ophthalmol.* 2001;132:244-251.
- Reid AH, McCall S, Henry JM, Taubenberger JK. Experimenting on the past: the enigma of von Economo's encephalitis lethargica. *J Neuropathol Exp Neurol.* 2001;60:663-670.
- Reid AH, Taubenberger JK, Fanning TG. The 1918 Spanish influenza: integrating history and biology. *Microbes Infect.* 2001;3:81-87.
- Remotti F, Fetsch JF, Miettinen M. Keratin 1 expression in endothelia and mesenchymal tumors: an immunohistochemical analysis of normal and neoplastic tissues. *Hum Pathol.* 2001;32:873-879.
- Riminucci M, Collins MT, Corsi A, Boyde A, Murphey MD, Wientroub S, Kuznetsov SA, Cherman N, Robey PG, Bianco P. Gnathodiaphyseal dysplasia: a syndrome of fibro-osseous lesions of jawbones, bone fragility, and long bone bowing. *J Bone Miner Res.* 2001;16:1710-1718.
- Robbin MR, Murphey MD, Temple HT, Kransdorf MJ, Choi JJ. Imaging of musculoskeletal fibromatosis. *Radiographics.* 2001;21:585-600.
- Ross J, Parson W, Furac I, Kubat M, Holland M. Multiplex PCR amplification of eight STR loci in Austrian and Croatian Caucasian populations. *Int J Legal Med.* 2001;7-60.
- Rossi SE, McAdams HP, Rosado-de-Christenson ML, Franks TJ, Galvin JR. Fibrosing mediastinitis. *Radiographics.* 2001;21:737-757.
- Rush WL. William Chester, MD (1903-1974). *Dermatopathology Practical and Conceptual.* 2001;7:255-259.
- Rush WL, Lupton GP. Cutaneous manifestations of Erdheim-Chester disease: report of a patient and review of the literature. *Dermatopathology Practical and Conceptual.* 2001;7:247-254.
- Sandberg G, Stewart W, Smialek J, Troncoso JC. The prevalence of the neuropathological lesions of Alzheimer's disease is independent of race and gender. *Neurobiol Aging.* 2001;22:169-175.
- Sangiorgi G, Arbustini E, Lanzarini P, del Bello B, Maestri M, Gaspari A, Solcia M, Virmani R, Inglese L. Nonbiodegradable expanded polytetrafluoroethylene-covered stent implantation in porcine peripheral arteries: histologic evaluation of vascular wall response compared with uncoated stents. *Cardiovasc Intervent Radiol.* 2001;24:260-270.
- Santi MR, Golden JA. Periventricular heterotopia may result from radial glial fiber disruption. *J Neuropathol Exp Neurol.* 2001;60:856-862.
- Schiffmann R, Kopp JB, Austin HA, Sabnis S, Moore DF, Weibel T, Balow JE, Brady RO. Enzyme replacement therapy in Fabry disease: a randomized, controlled trial. *JAMA.* 2001;285:2743-2749.
- Schmermund A, Schwartz RS, Adamzik M, Sangiorgi G, Pfeifer EA, Rumberger JA, Burke AP, Farb A, Virmani R. Coronary atherosclerosis in unheralded sudden coronary death under age 50: histopathologic comparison with 'healthy' subjects dying out of hospital. *Atherosclerosis.*

2001;155:499-508.

Schulman FY, Krafft AE, Janczewski T. Feline cutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus infection. *Vet Pathol.* 2001;38:291-296.

Seeff LB, Hollinger FB, Alter HJ, Wright EC, Cain CM, Buskell ZJ, Ishak KG, Iber FL, Toro D, Samanta A, Koretz RL, Perrillo RP, Goodman ZD, Knodell RG, Gitnick G, Morgan TR, Schiff ER, Lasky S, Stevens C, Vlahcevic RZ, Weinshel E, Tanwandee T, Lin HJ, Barbosa L. Long-term mortality and morbidity of transfusion-associated non-A, non-B, and type C hepatitis: a National Heart, Lung, and Blood Institute collaborative study. *Hepatology.* 2001;33:455-463.

Semendeferi K, Armstrong E, Schleicher A, Zilles K, Van Hoesen GW. Prefrontal cortex in humans and apes: a comparative study of area 10. *Am J Phys Anthropol.* 2001;114:224-241.

Sharp RM, Ansel HJ, Keel SB. Best cases from the AFIP: gastrointestinal stromal tumor. Armed Forces Institute of Pathology. *Radiographics.* 2001;21:1557-1560.

Sheng Z-M, Przygodzki RM, O'Leary TJ. Rapid screening for *KIT* mutations by capillary electrophoresis [letter]. *Clin Chem.* 2001;47:1325-1326.

Shimomura ET, Hodge GD, Paul BD. Examination of postmortem fluids and tissues for the presence of methylecgonidine, ecgonidine, cocaine, and benzoylecgonine using solid-phase extraction and gas chromatography-mass spectrometry. *Clin Chem.* 2001;47:1040-1047.

Shroff S, Farb A, John M, Virmani R. Neointima formation inhibited, but healing incomplete 12 months after deployment of high-dose ³²P beta-emitting stents. *Cardiovasc Radiat Med.* 2001;2:56.

Silver SA, Devouassoux-Shisheboran M, Mezzetti TP, Tavassoli FA. Mesonephric adenocarcinomas of the uterine cervix: a study of 11 cases with immunohistochemical findings. *Am J Surg Pathol.* 2001;25:379-387.

Simpson RH, Seymour MJ, Michal M, Fanburg-Smith J, Mentzel T, Kutzner H, Requena L, Zamecnik M, Miettinen M. Dendritic cell neurofibroma with pseudorosettes: two tumors in a patient with evidence of neurofibromatosis. *Am J Surg Pathol.* 2001;25:1458-1459.

Sinkre PA, Murakata L, Rabin L, Hoang MP, Albores-Saavedra J. Clear cell carcinoid tumor of the gallbladder: another distinctive manifestation of von Hippel-Lindau disease. *Am J Surg Pathol.* 2001;25:1334-1339.

Sledzik PS. A career takes form: Ellis Kerley's tenure at the Armed Forces Institute of Pathology (1957-1966). *J Forensic Sci.* 2001;46:777-779.

Smith BC. Introduction to DNA analysis. *Dent Clin North Am.* 2001;45:229-235, vii.

Smith ME, Stamatakis MD, Neuhauser TS. Intravascular lymphomatosis presenting within angiolipomas. *Ann Diagn Pathol.* 2001;5:103-106.

Smith ML, Shimomura ET, Summers J, Paul BD, Jenkins AJ, Darwin WD, Cone EJ. Urinary excretion profiles for total morphine, free morphine, and 6-acetylmorphine following smoked and intravenous heroin. *J Anal Toxicol.* 2001;25:504-514.

Sobin LH. TNM classification: clarification of number of regional lymph nodes for pN0 [letter]. *Br J Cancer.* 2001;85:780.

Sobin LH. TNM: principles, history, and relation to other prognostic factors. *Cancer.* 2001;91(suppl):1589-1592.

Sobin LH, Greene FL. TNM classification: clarification of number of regional lymph nodes for pN0. *Cancer.* 2001;92:452.

Soslow RA, Petersen CG, Remotti H, Altorki N. Acidic fibroblast growth factor is expressed sequentially in the progression from Barrett's esophagus to esophageal adenocarcinoma. *Dis Esophagus.* 2001;14:23-27.

St John PL, Wang R, Yin Y, Miner JH, Robert B, Abrahamson DR. Glomerular laminin isoform transitions: errors in metanephric culture are corrected by grafting. *Am J Physiol Renal Physiol.* 2001;280:F695-705.

Stone FP. Medical team management: using teamwork to prevent medical errors. *Legal Medicine.* 2001;26-30.

Sugiyama S, Okada Y, Sukhova GK, Virmani R, Heinecke JW, Libby P. Macrophage myeloperoxidase regulation by granulocyte macrophage colony-stimulating factor in human atherosclerosis and implications in acute coronary syndromes. *Am J Pathol.* 2001;158:879-891.

Tackett S, Birk CC. The patient safety mandate – rebuilding the trust and creating a reporting system. *Legal Medicine.* 2001;7-16.

- Tarkkanen M, Wiklund TA, Virolainen MJ, Larramendy ML, Mandahl N, Mertens F, Blomqvist CP, Tukiainen EJ, Miettinen M, Elomaa I, Knuutila YS. Comparative genomic hybridization of postirradiation sarcomas. *Cancer*. 2001;92:1992-1998.
- Taubenberger JK, Layne SP. Diagnosis of influenza virus: coming to grips with the molecular era. *Mol Diagn*. 2001;6:291-305.
- Taubenberger JK, Reid AH, Janczewski TA, Fanning TG. Integrating historical, clinical, and molecular genetic data to explain the origin and virulence of the 1918 'Spanish' influenza virus. *Philos Trans R Soc B Biol Sci*. 2001;356:1829-1839.
- Tavassoli FA. Ductal intraepithelial neoplasia of the breast. *Virchows Arch*. 2001;438:221-227.
- Taveira-DaSilva AM, Hedin C, Stylianou MP, Travis WD, Matsui K, Ferrans VJ, Moss J. Reversible airflow obstruction, proliferation of abnormal smooth muscle cells, and impairment of gas exchange as predictors of outcome in lymphangioleiomyomatosis. *Am J Respir Crit Care Med*. 2001;164:1072-1076.
- Taylor AJ, Gorman PD, Kenwood B, Hudak C, Tashko G, Virmani R. A comparison of four stent designs on arterial injury, cellular proliferation, neointima formation, and arterial dimensions in an experimental porcine model. *Cathet Cardiovasc Interv*. 2001;53:420-425.
- Thach JE. AFIP's top civilian. *Legal Medicine*. 2001:49-50.
- Thompson LD, Fanburg-Smith JC, Wenig BM. Nodular fasciitis of the external ear region: a clinicopathologic study of 50 cases. *Ann Diagn Pathol*. 2001;5:191-198.
- Thompson LD, Heffner DK. Sinonasal tract eosinophilic angiocentric fibrosis: a report of three cases. *Am J Clin Pathol*. 2001;115:243-248.
- Thompson LD, Wieneke JA, Paal E, Allen R, Adair CF, Heffess CS. A clinicopathologic study of minimally invasive follicular carcinoma of the thyroid gland with a review of the English literature. *Cancer*. 2001;91:505-524.
- Thunnissen FB, Ambergen AW, Koss M, Travis WD, O'Leary TJ, Ellis IO. Mitotic counting in surgical pathology: sampling bias, heterogeneity and statistical uncertainty. *Histopathology*. 2001;39:1-8.
- Timko AL, Miller CH, Johnson FB, Ross E. In vitro quantitative chemical analysis of tattoo pigments. *Arch Dermatol*. 2001;137:143-147.
- Tomaszewski MM, Moad JC, Lupton GP. Should primary cutaneous Ki-1 (CD30)-positive anaplastic large cell lymphoma in childhood be treated with multiple-agent chemotherapy[reply] ? *J Am Acad Dermatol*. 2001;45:639-640.
- Torske KR, Benson GS, Warnock G. Dermoid cyst of the maxillary sinus. *Ann Diagn Pathol*. 2001;5:172-176.
- Travis WD, Galvin JR. Non-neoplastic lymphoid lesions. *Thorax*. 2001;56:964-971.
- Tsai JC, Sivak-Callcott JA, Haik BG, Zhang J, McLean IW. Latanoprost-induced iris heterochromia and open-angle glaucoma: a clinicopathologic report. *Glaucoma*. 2001;10:411-413.
- Turk AS, Rappe AH, Villar F, Virmani R, Strother CM. Evaluation of the TriSpan neck bridge device for the treatment of wide-necked aneurysms: an experimental study in canines. *Stroke*. 2001;32:492-497.
- Virmani R, Burke AP, Farb A. Sudden cardiac death. *Cardiovasc Pathol*. 2001;10:211-218.
- Virmani R, Burke AP, Farb A. Sudden cardiac death. *Cardiovasc Pathol*. 2001;10:275-282.
- Virmani R, Kolodgie F, Farb A, Burke A. Pathologic evaluation of carotid endarterectomy. *Pathology Case Reviews*. 2001;6:236-243.
- Virmani R, Kolodgie FD, Farb A, Burke AP. Pathology of direct myocardial revascularization. *Curr Interv Cardiol Rep*. 2001;3:198-204.
- Vogel S, Hirschfeld MJ, Perera P-Y. Signal integration in lipopolysaccharide (LPS)-stimulated murine macrophages. *J Endotoxin Res*. 2001;7:237-241.
- Voss SD, Murphey MD, Hall FM. Solitary osteosclerotic plasmacytoma: association with demyelinating polyneuropathy and amyloid deposition. *Skeletal Radiol*. 2001;30:527-529.
- Wallin LL, Coleman GD, Froeling J, Parker GA. Rhinosporidiosis in a domestic cat. *Med Mycol*. 2001;39:139-141.
- Walsh DS, Prieto-Go D, Abalos RM, Tuur-Saunders SM, Villahermosa LG, Jabien Z, Walsh GP, Fajardo TT. Malignant T-cell lymphoma mimicking lepromatous leprosy. *Clin Exp Dermatol*. 2001;26:173-175.

- Ward TP, Hidayat AA, Laver NVM, Amacher AG III, Neafie RC, Simon DP, Cavallaro BE. A case of eyelid involvement in systemic loiasis. *Ophthalmic Practice*. 2001;19:74-76.
- Watson RP, Blanchard TW, Mense MG, Gasper PW. Histopathology of experimental plague in cats. *Vet Pathol*. 2001;38:165-172.
- Weiss RB. Breast cancer litigation: another aspect of the story. *Legal Medicine*. 2001;31-35.
- Weyant MJ, Carothers AM, Mahmoud NN, Bradlow HL, Remotti H, Bilinski RT, Bertagnolli MM. Reciprocal expression of ER alpha and ER beta is associated with estrogen-mediated modulation of intestinal tumorigenesis. *Cancer Res*. 2001; 61:2547-5251.
- Wieneke JA, Gannon FH, Heffner DK, Thompson LDR. Giant cell tumor of the larynx: a clinico-pathologic series of eight cases and a review of the literature. *Mod Pathol*. 2001;14:1209-1215.
- Wieneke JA, Thompson LDR, Heffess CS. Corticomedullary mixed tumor of the adrenal gland. *Ann Diagn Pathol*. 2001;5:304-308.
- Williams BH. Splenic rupture following palpation in a ferret. *Exotic DVM*. 2001;3:7-8.
- Williams BH, Mullick FG, Butler DR, Herring RF, O'Leary TJ. Clinical evaluation of an international static image-based telepathology service. *Hum Pathol*. 2001;32:1309-1317.
- Williams BH, Yantis LD, Craig SL, Geske RS, Li X, Nye R. Adrenal teratoma in four domestic ferrets (*Mustela putorius furo*). *Vet Pathol*. 2001;38:328-331.
- Wilson TM, Gregg DA, King DJ, Noah DL, Perkins LE, Swayne DE, Inskeep W II. Agroterrorism, biological crimes, and biowarfare targeting animal agriculture: the clinical, pathologic, diagnostic, and epidemiologic features of some important animal diseases. *Clin Lab Med*. 2001;21:549-591.
- Woodward PJ, Sohaey R, Mezzetti TP. Endometriosis: radiologic-pathologic correlation. *Radiographics*. 2001;21:193-216.
- Yang Y, Forslund A, Remotti H, Lonnroth C, Andersson M, Brevinge H, Svanberg E, Lindner P, Hafstrom L, Naredi P, Lundholm K. p53 mutations in primary tumors and subsequent liver metastases are related to survival in patients with colorectal carcinoma who undergo liver resection. *Cancer*. 2001; 91:727-736.
- Yasunaga Y, Nakamura K, Ko D, Srivastava S, Moul JW, Sesterhenn IA, McLeod DG, Rhim JS. A novel human cancer culture model for the study of prostate cancer. *Oncogene*. 2001;20:8036-8041.
- Zeng J, Bauer J, Zhang W, Sesterhenn I, Connelly R, Lynch J, Moul J, Mun SK. Prostate biopsy protocols: 3D visualization-based evaluation and clinical correlation. *Comput Aided Surg*. 2001;6:14-21.
- Zhang L, He T, Talal A, Wang G, Frankel SS, Ho DD. In vivo distribution of the human immunodeficiency virus/limian immunodeficiency virus coreceptors: CXCR4 CCR3 CCR5 [correction]. *J Virol*. 2001;75:1091.
- Zhang S, Lu J, Iyama K, Lo S-C, Danielsen M. A simplified method for large scale quantification of transcriptional activity and its use in studies of steroids and steroid receptors. *J Recept Signal Transduct Res*. 2001;21:71-84.
- Zhu Y, Romero MI, Ghosh P, Ye Z, Charnay P, Rushing EJ, Marth JD, Parada LF. Ablation of NF1 function in neurons induces abnormal development of cerebral cortex. *Genes Dev*. 2001;15:859-876.
- Zimmerman LE. Norman Henry Ashton, CBE, DSC(Lond), FRCP, FRCS, FRCPath, FRCOphth, FRS, KSTJ (1913-2000). *Arch Ophthalmol*. 2001;119:1229-1230.

BOOKS

- Gospodarowicz MK, Henson DE, Hutter RVP, O'Sullivan B, Sobin LH, Wittekind C. *Prognostic Factors in Cancer*. 2nd ed. New York, NY: John Wiley & Sons; 2001.
- Ishak KG, Goodman ZD, Stocker JT. *Tumors of the Liver and Intrahepatic Bile Ducts*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 31, Atlas of Tumor of Pathology.
- Jaffe E, Harris NL, Stein H, Vardiman JW, eds. *World Health Organization Classification of Tumours: Pathology and Genetics of Tumours of the Hematopoietic and Lymphoid Tissues*. Lyon, France: IARC Press; 2001.
- Kempson RL, Fletcher CDM, Evans HL, Hendrickson MR, Sibley RK. *Tumors of the Soft Tissues*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001.

Series 3, Fascicle 30, Atlas of Tumor Pathology.

MacSween RNM, Burt AD, Portman BC, Ishak KG, Scheuer PJ, Anthony PP, eds. *Pathology of the Liver*. 4th ed. London, England: Churchill Livingstone; 2001.

Portaels F, Johnson P, Meyers WM, eds. *Burculi Ulcer: Diagnosis of Mycobacterium ulcerans Disease. A Manual for Health Care Providers*. Geneva, Switzerland: World Health Organization; 2001. Monograph.

Scheitauer B, Woodruff J, Erlandson R. *Tumors of the Peripheral Nervous System* [book on CD-ROM]. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 24, Atlas of Tumor Pathology.

Sciubba JJ, Fantasia JE, Kahn LB. *Tumors and Cysts of the Jaw*. Washington, DC: Armed Forces Institute of Pathology, American Registry of Pathology; 2001. Series 3, Fascicle 29, Atlas of Tumor Pathology.

Sharf FA, Rhode M, Connor JTH. *American Angels of Mercy: Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904*. Newbury, Mass: Newburyport Press; 2001.

Sobin LH, Wittekind C, Akerley W, eds. *TNM Classification of Malignant Tumors* [electronic edition]. New York, NY: John Wiley & Sons; 2001.

Virmani R, Burke A, Farb A, Atkinson JB. *Cardiovascular Pathology*. 2nd ed. Philadelphia, Pa: WB Saunders Company; 2001.

Wittekind C, Henson DE, Hutter RVP, Sobin LH. *TNM Supplement: A Commentary on Uniform Use*. 2nd ed. New York, NY: John Wiley & Sons; 2001.

BOOK CHAPTERS

Burke AP, Virmani R. Nonatherosclerotic diseases of the aorta and miscellaneous diseases of the main pulmonary arteries and large veins. In: Silver MD, Gotlieb AI, Schoen FJ, eds. *Cardiovascular Pathology*. 3rd ed. New York, NY: Churchill Livingstone Inc; 2001:107-137.

Burke AP, Virmani R. Tumor-like conditions and tumors of the heart. In: Silver MD, Gotlieb AI, Schoen FJ, eds. *Cardiovascular Pathology*. 3rd ed. New York, NY: Churchill Livingstone Inc; 2001:583-605.

Fishbein WN. Adenylate deaminase. In: Creighton T, ed: *Wiley Encyclopedia of Molecular Medicine*. Vol 1. New York, NY: John Wiley & Sons; 2001:73-76.

Fishbein WN. Myoadenylate deaminase. In: Creighton T, ed: *Wiley Encyclopedia of Molecular Medicine*. Vol 3. New York, NY: John Wiley & Sons; 2001:2187-2190.

Heffner DK. Diseases of the trachea. In: Barnes L, ed. *Surgical Pathology of the Head and Neck, Vol 1*. 2nd ed. New York, NY: Marcel Dekker; 2001:601-631.

Isenschmid B, Levine B. Cocaine. In: Shaw LM, Kwong TC, eds. *The Clinical Toxicology Laboratory, Contemporary Practice of Poisoning Evaluation*. Washington, DC: AACC Press; 2001:97-112.

Ishak KG. Drug-induced hepatotoxicity: an update. In: Hauptmann S, Dietel M, Sobrinho-Simões M, eds. *Surgical Pathology Update 2001*. Berlin, Germany: ABW Wissenschaftsverlag; 2001:390-392.

Ishak KG. Liver. In: Henson DE, Albores-Saavedra J, eds. *Pathology of Incipient Neoplasia*. 3rd ed. Oxford, England: Oxford University Press; 2001:236-262.

Ishak KG, Sharp HL. Developmental abnormalities and liver disease in childhood. In: MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, ed. *Pathology of the Liver*. 4th ed. London, England: Churchill Livingstone; 2001:107-154.

Ishak KG, Sharp HL, Schwarzenberg SJ. Metabolic errors and liver disease. In: MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, eds. *Pathology of the Liver*. 4th ed. London, England: Churchill, Livingstone; 2001:155-255.

Kalasinsky KS, Kalasinsky VF. High performance liquid chromatography-

Fourier transform infrared spectroscopy. In: Griffiths PR, Chalmers JC, eds. *The Handbook of Vibrational Spectroscopy*. New York, NY: John Wiley and Sons; 2001:1641-1660.

Linninger R, Tavassoli FA. Breast. In: Henson DE, Albores-Saavedra J, eds. *Pathology of Incipient Neoplasia*. 3rd ed. New York, NY: Oxford University Press; 2001:chap 5.

Merezhinskaya N, Fishbein WN. Monocarboxylate transporters. In: Creighton T, ed: *Wiley*

Encyclopedia of Molecular Medicine. Vol. 3. New York, NY: John Wiley & Sons; 2001:2119-2123.

Meyers WM. Leprosy. In: Guerrant, Walker, Weller, eds. *Essentials of Tropical Infectious Disease*. Philadelphia, Pa: Churchill Livingstone; 2001:221-227.

Meyers WM. Leprosy. In: Guerrant, Walker, Weller, eds. *Tropical Infectious Diseases: Principles, Pathogens, and Practice*. Vol 1. Philadelphia, Pa: Churchill Livingstone; 2001:474-485.

Portaels F, Chemlal K, Elsen P. Johnson PDR, Hayman JA, Hibble J, Kirkwood R, Meyers WM. *Mycobacterium ulcerans* in wild animals. In: *Mycobacterial Infections in Domestic and Wild Animals*. Dilmitis GS, ed. Scientific and Technical Review, Office International des Epizooties; Vol 20. Paris, France: 2001:252-264.

Rush WL. Langerhans' cell granulomatosis? In: Ackerman AB, Mones J, eds. *Resolving Quandaries in Dermatology, Pathology & Dermatopathology II*. New York, NY: Ardor Scribendi; 2001:222-227.

Rushing EJ, Burns DK. Central nervous system tumors. In: Hensen DE, Albores-Saavedra J, eds. *Pathology of Incipient Neoplasia*. New York, NY: Oxford University Press; 2001:768-796.

Rushing EJ, Burns DK. Infections of the nervous system. In: Garcia JH, ed. *Neuroimaging Clinics of North America*. Vol II, No 1. Philadelphia, Pa. WB Saunders Company; 2001:1-13.

Sledzik PS, Rodriguez WC. Damnum fatale: the fate of human remains in mass disasters. In: Haglund W, Sorg M, eds. *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*. Boca Raton, Fla: CRC Press; 2001:321-330.

Taubenberger JK. Genetic characterization of the 1918 'Spanish' influenza virus. In: Philips H, Killingray D, eds. *The Spanish Flu Pandemic of 1918*. Routledge Studies in the Social History of Medicine 12. London, England: Routledge Press; 2001.

Taubenberger JK. Sequencing influenza A from the 1918 pandemic, investigating its virulence, and averting future outbreaks. In: Layne S, Beugelsdijk TJ, Patel CKN, eds. *National Academy Colloquium Proceedings: Automation in Threat Reduction and Infectious Disease Research: Needs and New Directions*. Washington, DC: National Academy Press; 2001:123-130.

Taubenberger JK, Reid AH, Janczewski TA, Fanning TG. Characterization of the 1918 influenza virus hemagglutinin and neuraminidase genes. In: Osterhaus ADME, Cox N, Hampson AW, eds. *Options for the Control of Influenza IV*. Amsterdam, The Netherlands: Excerpta Medica; 2001:545-549.

Taylor AJ, Virmani R. Coronary artery anomalies. In: Crawford MH, DiMarco JP, eds. *Cardiology*. London, England: Mosby; 2001:2.10.1-2.10.10.4

Thompson LDR. Laryngeal pathology. In: Fu YS, Wenig BM, Abemeyor C, eds. *Pathology of the Head and Neck with Clinicopathologic Correlations*. New York, NY: Churchill Livingstone; 2001:369-455.

Thompson LDR. Surgical pathology of the larynx. In: Weidner, Cote, Suster, Weiss, eds. *Modern Surgical Pathology*. Philadelphia, Pa: WB Saunders Co; 2001.

Travis WD. Lung. In: Albores-Saavedra J, Henson DE, eds. *Pathology of Incipient Neoplasia*. 3rd ed. New York, NY: Oxford University Press; 2001:295-318.

Virmani R, Kolodgie FD, Burke A, Farb A. Inflammation in coronary atherosclerosis-pathological aspects. In: Mehta JL, ed. *Inflammatory and Infectious Basis of Atherosclerosis*. Basel, Switzerland: Birkhauser Verlag; 2001:23-46.

Wenig BM, Heffess CS. Inflammatory and infectious diseases of the pancreas. In: Odze R, Goldblum J, Crawford J, eds. *Surgical Pathology of the Gastrointestinal Tract, Liver, Biliary Tract and Pancreas*. Philadelphia, Pa: Harcourt Health Sciences; 2001.

Wilson T, Gregg D, King D, Noah D, Perkins L, Swayne D, Inskeep W. Agroterrorism, biological crimes, and biowarfare targeting animal agriculture: the clinical, pathologic, diagnostic, and epidemiologic features of some important animal diseases. In: *Clinics in Laboratory Medicine*. Philadelphia, Pa: WB Saunders Company; 2001.

Zhang S, Danielsen M. Cotransfection assays and steroid receptor biology. In: Lieberman B, ed. *Steroid Receptor Methods: Protocols and Assay. Methods in Molecular Biology*. Vol 176. Totowa: Humana Press; 2001:297-316.

Zimmerman HJ, Ishak KG. Hepatic injury due to drugs and toxins. In: MacSween RNM, Burt AD, Portmann BC, Ishak KG, Scheuer PJ, Anthony PP, eds. *Pathology of the Liver*. 4th ed. London, England: Churchill Livingstone; 2001:621-709.

ABSTRACTS

- Alli PM, Siddiqui MT, O'Leary TJ, Ali SZ. Spectrum of cytomorphologic changes in anaplastic thyroid carcinoma (ATC) on fine needle aspiration (FNA). United States and Canadian Academy of Pathology; 2001; Atlanta, Ga. *Lab Invest.* 2001;81:49A.
- Baird JK, Purnomo, Bangs MJ, McCutchan T, Rathore D, Jones TR, Collins WC, Neafie RC, Tiwari T, Fryauff DJ, Hoffman SL. *Plasmodium sp* causing human disease in Guyana and Guatemala. *Am J Trop Med Hyg.* 2001;65:363. Abstract 629.
- Bancroft LW, Kransdorf MJ, Peterson JJ, Sundaram M, Murphey MD, O'Connor MI. Imaging characteristics of spindle cell lipoma. *Radiology.* 2001;221(P):474.
- Barritt SM, Lee DA, Cariola ML, Smith BC, Temple RE. The use of deciduous teeth as an alternative reference source in DNA casework. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- Beasley MB, Fanburg-Smith JC, Fujii T, Travis WD. Calretinen staining in synovial sarcoma: a potential pitfall in pleural biopsy interpretation. *Mod Pathol.* 2001;14:217A. Abstract 1277.
- Bell R, David J, Burgess R, Thomas W, Hadfield TL. PCR based assay for the rapid identification of *Bacillus anthracis* from clinical samples. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April 8-11, 2001; Houston, Tex.
- Bell R, David J, Burgess R, Thomas W, Hadfield TL. PCR based assay for the rapid identification of *Bacillus anthracis* from clinical samples. American Society for Microbiology Meeting; May 20-24, 2001; Orlando, Fla.
- Bijwaard KE, Przybicki JM, Dement-Brown JL, Taubenberger JK, Lichy JH. Detection of PAX/FKHR fusion transcripts in archival rhabdomyosarcomas by real-time reverse transcriptase-polymerase chain reaction. *J Mol Diagn.* 2001;3:211.
- Blanchard A, Anderson TA, Wilson RE, Rankin D, Grant WE, Temple RE, Smith BC. Using science to better the quality of human life. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- Blaylock R, Wang R, Nagy TR. Beacon and uncoupling protein expression in a seasonal model of obesity. The NAASO 2001 Annual Meeting.
- Bouchiha S, Williams B, Young D, Garner M. Vascular neoplasia in the domestic ferret (*Mustela putorius furo*): a retrospective study. *Vet Pathol.* 2001;38:580. Abstract 41.
- Bouffard J-P, Mena H, Troncoso J, Ripple M. Mesencephalic cryptococcal abscesses presenting with a parkinsonian syndrome as an initial manifestation of the disease of AIDS. *J Neuropathol Exp Neurol.* 2001;60:556.
- Branton MH, Schiffmann R, Sabnis S, Murray GJ, Quirk JM, Altarescu G, Brady RO, Balow JE, Austin HA, Kopp JB. Alpha-galactosidase A activity and gene mutations: effect on pathology and course of Fabry renal disease. *J Am Soc Nephrol.* 2001;12:549A.
- Bratthauer GL, Tavassoli FA. E-cadherin and high molecular weight cytokeratin immunoprofile differentiates lobular, ductal, and hybrid intraepithelial neoplasias. *Breast Cancer Res Treat.* 2001;69:277. Abstract 403.
- Bratthauer GL, Tavassoli FA. Lobular intraepithelial neoplasia: an examination of concurrent disease with grade and the implications for patient management. *Breast Cancer Res Treat.* 2001;69:297. Abstract 503.
- Bratthauer GL, Tavassoli FA. STAT 5 immunohistochemical determination in breast epithelium: absence of reactivity in abnormal cells. *Breast Cancer Res Treat.* 2001;69:295. Abstract 475.
- Burke A, Farb A, Kolodgie F, Weber D, Peterson E, Varghese J, Virmani R. Coronary plaque lipid core size, calcified area, and plaque burden in diabetics and non-diabetics dying suddenly with severe coronary artery atherosclerosis. *Arterioscler Thromb Vasc Biol.* 2001;21:701. Abstract 255.
- Burke AP, Kolodgie FD, Creighton W, Kutys R, Farb A, Virmani R. Homozygosity for II-1RN Allele 2 confers a protective effect against fatal coronary thrombosis. *Circulation.* 2001;104 (suppl II):II-448. Abstract 2126.
- Burke AP, Tracy R, Virmani R. C-reactive protein as a risk factor for atherothrombosis: a postmortem study. *Mod Pathol.* 2001;14:238A.
- Burke AP, Varghese PJ, Peterson E, Malcom G, Farb A, Virmani R. Large lipid core and extensive plaque burden are features of coronary atherosclerosis in patients with non-insulin dependent diabetes mellitus. *J Am Coll Cardiol.* 2001;37(suppl A):257A. Abstract 1160-172.

- Burke AP, Weber DK, Kolodgie FK, Peterson E, Virmani R. Atherosclerotic coronary artery expansion is not simply a function of percent stenosis: calcification and lipid core contribute to positive remodeling. *J Am Coll Cardiol.* 2001;37(suppl A):3A. Abstract 1039-22.
- Centeno JA, Mullick FG, Finkelman RB. Metals, health and the environment. In: *Proceedings of the Second Conference on Medical Geology for East and Southern African Countries*; June 26 – 29, 2001.
- Centeno JA, Mullick FG, Gibb H, Longfellow D, Thompson C, Page NP, Martinez L. Environmental pathology of chronic arsenic poisoning: an overview and introduction. In: *Proceedings of the Third International Meeting on Molecular Mechanisms of Metal Toxicity and Carcinogenicity*; September 2-5, 2001; Sardegna, Italy.
- Chen J, Yanuck III RR, Abbondanzo SL, Chu W-S, Aguilera NSI. C-Kit (C-19) immunoreactivity in granulocytic sarcoma (GS)/extramedullary myeloid tumors: a study of 32 cases. *Mod Pathol.* 2001;14:929A.
- Chu W-S, Fisher S, Aguilera NS, Wei MQ, Abbondanzo SL. Transcription factor NF kappa B (NF- κ B) expression in malignant lymphomas (ML): a novel differential marker for anaplastic large cell lymphoma (ALCL). *Mod Pathol.* 2001;14:937A.
- Cordero SC, Corso CJ, Lo A, Wong-Verelle DM, Kalasinsky VF. Detection of applied chemicals using a transdermal sweat patch and GC/MS analysis. In: *Abstracts of the 52nd Pittsburgh Conference*; March 4-9, 2001; New Orleans, La.
- Correia CP, Figueiredo AM, Oliver KM, McLean IW, Burnier MN Jr. Co-expression of vimentin and cytokeratin in uveal melanoma. *Invest Ophthalmol Vis Sci.* 2001;42:S218. Abstract 1173-B486.
- Coupland SE, Foss HD, Hidayat AA, Cockerham GC, Mummel M, Stein H. Extranodal marginal zone B-cell lymphomas of the uvea. *Invest Ophthalmol Vis Sci.* 2001;42:S504. Abstract 2722-B830.
- DeNunzio T, Kiandoli L, Sabnis S, Yuan C. Effect of angiotensin converting enzyme inhibitor (ACE I) and mycophenolate mofetil (MMF) on established puromycin aminoglycoside (PAN)-induced focal segmental glomerulosclerosis (FSGS). *J Am Soc Nephrol.* 2001;12:881A.
- Dimitrova KR, DeGroot KW, Myers AK, Pirovic E, Farhar M, Munro T, Wieneke J, Suyderhoud J, Kim YD. Estradiol and homocysteine-induced endothelial injury in vivo. *FASEB J.* 2001;15:A1132. Abstract 889.6.
- Dobson ME, David JC, Weyant RC, Zhang B, Hadfield TL. Molecular fingerprinting using AFLP for temporally dispersed *Brucella* from Illinois. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April 8-11, 2001; Houston Tex.
- Dobson ME, David JC, Weyant RC, Zhang B, Hadfield TL. Molecular fingerprinting using AFLP for temporally dispersed *Brucella* from Illinois. American Society for Microbiology Meeting; May 20-24, 2001; Orlando, Fla.
- Dural AT, Genta RM, Goodman ZD, Yoffe B. Idiopathic adulthood ductopenia associated with hepatitis C virus: a case report. *Am J Gastroenterol.* 2001;96:S119-S120.
- Fetsch JF, Laskin WB, Miettinen M. Superficial acral fibromyxoma: a clinicopathologic and immunohistochemical analysis of 37 cases of a distinctive soft tissue tumor with a predilection for the fingers and toes. *Mod Pathol.* 2001;14:12A. Abstract 47.
- Finn AV, Clermont A, Kolodgie FD, Weber DK, Yu JC, Hollenbach S, Giese N, Virmani R, Gold H. An oral inhibitor of platelet derived growth factor limits neointimal formation after arterial balloon injury in a rat model of type II diabetes mellitus. *Circulation.* 2001; 104 (suppl II):II-236. Abstract 1138.
- Farb A, Virmani R. Late stent thrombosis in humans is due to impaired intimal healing. *J Am Coll Cardiol.* 2001;37(suppl A):31A. Abstract 1123-23.
- Figueiredo AP, Correia CP, Oliver KM, McLean IW, Burnier MN Jr. Actin immune-expression in choroidal malignant melanoma. *Invest Ophthalmol Vis Sci.* 2001;42:S218. Abstract 1172-B485.
- Finkelman RB, Centeno JA, Zheng BS. Health impacts of coal: fallacies, and some solutions. In: *Proceedings of the Geological Society of America*; 2001:A27.
- Finn AV, Clermont A, Kolodgie FD, Weber DK, Yu JC, Hollenbach S, Giese N, Virmani R, Gold H. An oral inhibitor of platelet derived growth factor limits neointimal formation after arterial balloon injury in a rat model of type II diabetes mellitus. *Circulation.* 2001;104 (suppl II):II-236. Abstract 1138.
- Fishbein WN, Merezhinskaya N, Foellmer JW. Relative distribution of 3 lactate transporters in frozen human tissues and their localization in skeletal muscle. *FASEB J.* 2001;15:A385.
- Fisher SI, Abbondanzo SL, Thompson LDR, Aguilera NS, Chu WS, Gulley ML, Nelson A. HIV-

- associated Hodgkin's disease: a histologic and immunophenotypic evaluation of 47 cases including antigenic expression of fascin, bcl-xL, bcl-2, bcl-6 and CD138/syndecan-1. *Mod Pathol.* 2001;14:184A. Abstract 1083.
- Fisher SI, Nandedkar MA, Williams BH, Abbondanzo SL. Is telehematopathology an efficacious diagnostic modality for the early 21st century? One institution's experience with sixty consultative cases. US/Canadian Academy of Pathology; March 2001; Atlanta, Ga. *Mod Pathol.* 2001;14:1370A.
- Flaherty KR, Colby T, Travis W, Toews G, Flint A, Gay S, Strawderman R, Jain A, Lynch J, Martinez FJ. Differential presence of fibroblastic foci in usual interstitial pneumonia (UIP) patients with or without connective tissue disease. *Am J Respir Crit Care Med.* 2001;163.
- Flaherty KR, Kazerooni E, Toews G, Colby T, Gross B, Flint A, Lynch JP, Gay S, Martinez FJ. Change in pulmonary function and semiquantitative HRCT scores in patients with UIP and NSIP. *Am J Respir Crit Care Med.* 2001;163.
- Frost, D. Gastrointestinal stromal tumors and leiomyomas in the dog. *Vet Pathol.* 2001;38:575. Abstract 21.
- Fujii T, Bijwaard KE, Taubenberger JK, Lichy JH, Franks TJ, Travis WD. Pulmonary synovial sarcoma: a real-time reverse transcriptase-polymerase chain reaction assay for detection of SYT-SS fusion transcripts in formalin-fixed paraffin-embedded tissue. 90th Annual Meeting of USCAP; March 3-9, 2001; Atlanta, Ga. Poster 181. *Mod Pathol.* 2001;14:219A.
- Fujii T, Franks TJ, Azumi N, Saito K, Travis WD. Cytokeratin immunoreactivity in benign and malignant localized fibrous tumors (LFT) of the pleura. 90th Annual Meeting of USCAP; March 3-9, 2001; Atlanta, Ga. Poster 180. *Mod Pathol.* 2001;14:218A.
- Furlong MA, Fanburg-Smith JC, Miettinen M. A morphologic and clinicopathologic study of 170 cases of hibernoma. *Mod Pathol.* 2001;14:12A. Abstract 50.
- Gochuico BR, MacDonald SD, Rosas I, Beasley M, Travis WD, Ren P, Wu HP, Chen CC. Rapid 99mTC-DTPA lung clearance in individuals with UIP is associated with lung PMN accumulation. *Am J Respir Crit Care Med.* 2001;163.
- Groover JC, Wadhams MJ, Holland MM, Smith BC, Le Roux M-G. An international study on the detection of mitochondrial sequence heteroplasmy. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- Gyure KA, Morrison AL, Thompson LDR, Prayson RA. Cytokeratin subset markers in pituitary adenomas. *Mod Pathol.* 2001;14:208A. Abstract 1233.
- He P, Azumi N, Beasley MB, Brambilla E, Hasleton PS, Travis WD. Significance of p27 expression in pulmonary neuroendocrine tumors. *Mod Pathol.* 2001;14:220A.
- Henry JM, Reid AH, McCall S, Taubenberger JK. Experimenting on the past: von Economo's encephalitis lethargica. American Association of Neuropathology Meeting; June 22, 2001; Chicago Ill.
- Henry JM, Reid AH, McCall S, Taubenberger JK. Von Economo's encephalitis lethargica. *J Neuropathol Exp Neurol.* 2001;60:509.
- Hiatt KM, Nelson AM, Lichy JH, Fanburg-Smith JC. Classic Kaposi sarcoma over the last two decades: a clinicopathologic and molecular study of 438 HIV-negative patients. *Mod Pathol.* 2001;14:13A. Abstract 54.
- Hidayat AA, Shetty RK, Varga JH, Stonecipher KG. Epithelial metaplasia of the corneal endothelium in forceps injury – associated keratopathy. *Invest Ophthalmol Vis Sci.* 2001;42:S278. Abstract 1506-B819.
- Irwin J, Lee DA, Willard JM. AFDIL Stats: an automated program for profile comparison and statistical analysis of STR data in mass disaster applications. 12th International Symposium on Human Identification; October 9-12, 2001; Biloxi, Miss.
- Irwin J, Ross JP. Automated statistical analyses of STR data and the identification of individuals from mass disasters via a custom Windows-based application. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- John MC, Farb A, Khurana C, Acampado E, Virmani R. Loss of neointimal suppression between 1 and 2 years after placement of ³²P β -emitting stents. *Circulation.* 2001;104(suppl II):II-666. Abstract 3146.
- John MC, Farb A, Virmani R. Adverse edge effects are not prevented by ³²P beta-emitting hot-ends radioactive stents. *J Am Coll Cardiol.* 2001;37(suppl A):62A. Abstract 1221-15.

- John M, Shroff S, Farb A, Virmani R. In vivo cellular responses to ^{32}P beta-emitting stents. *Cardiovasc Radiat Med*. 2001;2:55-56.
- Johnson D, Levisky J, Hearn W, Moore K, Levine B. Fatal diphenhydramine intoxication in infants. National Association of Medical Examiners; October 2001; Richmond, Va.
- Jones SW, Lee DA, Veasey RC, Ross JP, Willard JM, Mallack CT, Smith BC. The utility of DNA identification methodologies as an investigative tool in aircraft disasters. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- Kalasinsky VF, Jenkins HM, Johnson FB, Wieboldt RD, Longmire M. Identification of foreign materials in tissue specimens using infrared and Raman microspectroscopy. In: *Abstracts of the 52nd Pittsburgh Conference*; March 4-9, 2001; New Orleans, La.
- Kaya B, Gyure KA. Neuropathologic findings in Lowe syndrome: correlation with radiographic findings. *J Neuropathol Exp Neurol*. 2001;60:552.
- Khurana C, Farb A, Weber DK, Burke AP, Virmani R. The importance of arterial injury in the development of restenosis in humans with small diameter coronary stents. *Circulation*. 2001;104 (suppl II):II-388. Abstract 1850.
- Koeller KK. Intra-axial neoplasms. *Radiology*. 2001;221(P):77.
- Koeller KK, Galvin JR, Levy AD, Lonergan GL, Murphey MD, Woodward PJ. Lymphoma from head to toe. Special Focus Session, Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; Chicago, Ill. *Radiology*. 2001;221(P):41.
- Kolodgie FD, Edwards S, Petrov A, Sachleben RA, Hartung D, Weber DK, Narula N, Jain D, Gold HK, Virmani R, Narula J. Noninvasive detection of matrix metalloproteinase upregulation in experimental atherosclerotic lesions and its abrogation by dietary modification. *Circulation*. 2001;104 (suppl II):II-694. Abstract 3274
- Kolodgie FD, Wight TN, Burke AP, Farb A, Weber DK, Virmani R. Proteoglycan distribution in culprit lesions from sudden coronary deaths. *Arterioscler Thromb Vasc Biol*. 2001;21:678. Abstract 161.
- Kumaki F, Kawai T, Churg A, Gallateau-Salle FB, Haselton P, Henderson D, Roggli V, Travis WD, Cagle P, Ferrans VJ. Expression of telomerase reverse transcriptase (TERT) in malignant mesothelioma. *Mod Pathol*. 2001;14:222A. Abstract 1309.
- Kumaki F, Matsui K, Valencia J, Yu Z, Kawai T, Ozeki Y, Ferrans VJ, Travis WD. Expression of matrix metalloproteinases in pulmonary adenocarcinoma showing lepidic growth and atypical adenomatous hyperplasia. *Mod Pathol*. 2001;14:222A.
- Kyjek E, Chadburn A, Hochholzer L, Koss MN, Frizzera G. Immunophenotypic analysis of the mantle zone cells in hyaline-vascular Castleman's disease. *Mod Pathol*. 2001;14:167A. Abstract 981.
- Ladich ER, Specht CS, Lewin-Smith MR, Moroz AL, Kalasinsky VF, Mullick FG. A histopathologic study of head and neck specimens from a cohort of Persian Gulf War military veterans. *Mod Pathol*. 2001;14:151A.
- Lasota J, Fetsch JF, Wozniak A, Wasag B, Sciort R, Miettinen M. Neurofibromatosis type 2 (NF2) gene is often mutated in perineurial cell tumors (PNTs). *Mod Pathol*. 2001;14:14A. Abstract 63.
- Lee J, Lasota J, Miettinen M. Gastrointestinal autonomic nerve tumor (GANT): molecular identity with gastrointestinal stromal tumor (GIST). *Mod Pathol*. 2001;14:90A. Abstract 515.
- Levy AD, Murakata LA, Rohrmann CA. Gallbladder carcinoma: radiologic-pathologic correlation. 30th Annual Meeting of the Society of Gastrointestinal Radiologists; March 25-30, 2001; Scottsdale, Ariz.
- Levy AD, Rohrmann CA, Kende AI, Schuffler MD, Shobak K. Gastrointestinal motility disorders: radiologic-pathologic correlation. Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; November 24-30, 2001.
- Levy AD, Rohrmann CA, Lonergan GL, Murakata LA. Choledochal cysts: clinical, radiologic, and pathologic review and classification of 130 cases. *Radiology*. 2001; 221(P):445.
- Levy AD, Rohrmann CA, Schuffler MD, Krishnamurthy S, Kende AI. Gastrointestinal motility disorders: radiologic-pathologic correlation. *Radiology*. 2001; 221(P):658.
- Lewin-Smith MR, Specht CS, Ladich ER, Kalasinsky VF, Mullick FG. Gastrointestinal tract pathology specimens from US Military Gulf War veterans. In: *Abstracts of the Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2002; Alexandria, Va.
- Lewin-Smith MR, Specht CS, Moroz AL, Ladich ER, Kalasinsky VF, Mullick FG. The distribution of

- anatomic pathology diagnoses in a cohort of US Persian Gulf War military veterans. *Am J Clin Pathol.* 2001;116:599-600.
- Lichy JH, Krafft AE, Bijwaard KE, Przybocki JM, Dement-Brown JL, Taubenberger JK, Goodman ZD. Clonal antigen receptor gene rearrangements in inflammatory liver disease. *J Mol Diagn.* 2001;3:198.
- Loeffler KU, McLean IW. Membrane patterns, factor VIII staining and prognosis in 100 cases of human uveal melanoma. *Invest Ophthalmol Vis Sci.* 2001;42:S216. Abstract 1162-B475.
- Ludwin SK, Henry JM, McFarland H. Vascular proliferation and angiogenesis in multiple sclerosis. *J Neuropathol Exp Neurol.* 2001;60:505.
- Man YG, Moinfar F, Shekitka KM, Stamatakis M, Linninger RA, Kuhis E, Bratthauer GL, Tavassoli FA. Primary bilateral breast cancers display different LOH and CGH profiles in both epithelial and stromal components. *Breast Cancer Res Treat.* 2001;69:214. Abstract 24.
- Marcellin P, Chang T-T, Lim SG, Tong MJ, Sievert W, Shiffman M, Jeffers L, Goodman Z, Ma J, Jain A, Fry J, Brosgart CL. A double-blind, randomized, placebo-controlled study of adefovir dipivoxil (ADV) for the treatment of patients with HBEAG+ chronic hepatitis B infection: 48 week results. *Hepatology.* 2001;34:340A. Abstract 674.
- McFee WE, Lipscomb TP, Bradford JP, Zolman ES. Vertebral and atlanto-occipital ankylosis in a bottlenose dolphin with gout-like soft tissue lesions and vaginal calculus. In: *Abstracts of the Fourteenth Biennial Conference on the Biology of Marine Mammals, The Society for Marine Mammalogy;* 2001.
- McLeod DG, Mostofi FK, Sesterhenn IA, Zhang W, Davis CJ, Gibbons M, Moul JW. Significance of seminal vesicle invasion by prostatic carcinoma. *J Urol.* 2001;165(suppl 5):292. Abstract 1200.
- Michal M, Fanburg-Smith JC, Mentzel T, Kutzner H, Requena L, Zamecnik M, Miettinen M. Cutaneous neurofibroma with pseudorosettes and dendritic Schwann cells: a report of 18 cases of a hitherto unrecognized tumor. *Mod Pathol.* 2001;14:16A. Abstract 71.
- Millward CL, Miettinen M. Neural cell adhesion molecule (CD56) expression in mesenchymal tumors. *Mod Pathol.* 2001;14:16A. Abstract 72.
- Murga K, Cariola M, Lee DA, Willard JM, Smith BC. The role of DNA analysis in mass disasters. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- Murphy MD, Nomikos GC. Prospective diagnosis of soft tissue tumors. *Radiology.* 2001;221(P):473.
- Murphey MD, Sundaram M. A systematic approach to imaging of musculoskeletal tumors. *Radiology.* 2001;221(P):53.
- Neafie R, Mackenzie IR. Cerebral *Baliscaris procyonis* infection as an incidental autopsy finding. *J Neuropathol Exp Neurol.* 2001;60:557. Abstract 215.
- Nicholson SA, Khan MA, Welsh JA, McMenamin MG, Travis WD, Harris CC. Inactivation of p14ARF and p53 are inversely correlated in human cell lines. *Mod Pathol.* 2001;14:212A.
- Nicholson SA, Khan MA, Welsh JA, Travis WD, Bennett W, Battey J, Marrogi A, Jett JR, Tazelaar HD, Trastek V, Pairolero PC, Liotta LA, Caproaso NE, Harris CC. Gastrin-releasing peptide receptor (GRPR) expression in non-small cell lung carcinoma (NSCLC). *Mod Pathol.* 2001;14:224A.
- Nicholson SA, Khan MA, Welsh JA, Travis WD, Okby NB, Bennett W, Przygodzki R, Jett JR, Tazelaar HD, Trastek V, Pairolero PC, Liotta LA, Caproaso NE, Harris CC. p1ARF deletion is associated with poor prognosis in non-small cell lung carcinoma (NSCLC). *Mod Pathol.* 2001;14:224A.
- Nomikos GC, Murphey MD, Gannon FH, Flemming DJ. Imaging of chondroblastoma with pathologic correlation. *AJR Am J Roentgenol.* 2001;176:141.
- Nomikos GC, Murphey MD, Gannon FH, Flemming DJ. Imaging of chondroblastoma with pathologic correlation. *Radiology.* 2001;221(P):664.
- Nomikos GC, Murphey MD, Gannon FH, Jelinek JS. Giant cell tumor of the spine. *AJR Am J Roentgenol.* 2001;176(suppl):71.
- O'Leary TJ. The impact of FDA regulations on the clinical laboratory. American Association for Clinical Chemistry; Chicago, Ill. *Clin Chem.* 2001;47:S28.
- Opell MB, Zeng J, Bauer JJ, Zhang W, Sesterhenn IA, Mun SK, Moul JW, Lynch JH, Connelly RR. Correlating the number of positive biopsy cores to tumor volume for prostate cancer. *J Urol.* 2001;165 (suppl 5):312. Abstract 1284.

- Ostrowski ML, Devaney K, DE Sweet. Cartilaginous lesions of the sternum. *Mod Pathol*. 2001;14:17A. Abstract 78.
- Parsons TJ. Developments in obtaining and handling mtDNA sequence data. Second European-American Intensive Course in Clinical and Forensic Genetics; September 3-14, 2001; Dubrovnik, Croatia.
- Parsons TJ. DNA identification challenges: identifying US soldiers missing from the Korean War. Second European-American Intensive Course in Clinical and Forensic Genetics; September 3-14, 2001; Dubrovnik, Croatia.
- Parsons TJ. Increasing the power of mtDNA forensic testing by SNP assays over the entire mtDNA genome. Second European-American Intensive Course in Clinical and Forensic Genetics; September 3-14, 2001; Dubrovnik, Croatia.
- Parsons TJ, Coble MD. Increasing the power of mtDNA forensic testing by SNP assays over the entire mtDNA genome. National Institute of Justice Second Annual DNA Grantee's Workshop; June 6-8, 2001; Washington, DC.
- Parsons TJ, Irwin JA, Byrd JE, Adams BJ, Nelson GA, Wadhams MJ, Anderson TD, Fasano MA, Barritt SM, Smith BC. Development of extraction methods to solve a unique challenge in mtDNA identification: the Korean War 'punchbowl' unknowns. 53rd Annual Meeting of the American Academy of Forensic Sciences; February 19-24, 2001; Seattle, Wash.
- Pauquette EL, Connelly RR, Sun L, Paquette LR, Moul JW, Sesterhenn IA, Zhang W, Greenspan R, McLeod DG. Improvements in pathologic staging for African-American men undergoing radical retropubic prostatectomy during the PSA-ERA: implications for screening a high-risk group for prostate cancer. *J Urol*. 2001;165(suppl 5):65. Abstract 266.
- Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI. Appendiceal neoplasms presenting as acute appendicitis: CT findings with pathologic correlation. Radiological Society of North America, 87th Scientific Assembly and Annual Meeting; November 24-30, 2001. Certificate of Merit Award.
- Pickhardt PJ, Levy AD, Rohrmann CA, Kende AI. Primary neoplasms of the appendix neoplasms manifesting as acute appendicitis: CT findings with pathologic correlation. *Radiology*. 2001;221(P):492.
- Potter K, Leapman RD, Bassar PJ, Landis WJ. Endothelial bone formation studied by proton NMR microscopy. *Proc Intl Soc Mag Reson Med*. 2001;9:2126.
- Poynard T, Salpetriere P, McHutchison J, Manns M, Trepo C, Lindsay K, Goodman Z, Ling M-S, Albrecht JK. Impact of pegylated interferon alfa-2B and ribavirin on progression of liver fibrosis in patients with chronic hepatitis C. *Hepatology*. 2001;34:244A. Abstract 282.
- Raghavan R, Taqvi R, Rushing EJ, Perry A, Vono MB, White CL III, Coimbra CL, Watson ML. Long-time survivors with glioblastoma multiforme. *J Neuropathol Exp Neurol*. 2001; 60:533.
- Reid AH, Janczewski TA, Fanning TG, Taubenberger JK. Update on the 1918 'Spanish' influenza virus. IVth Annual Conference on Influenza and Other Respiratory Viruses; November 29, 2001; Curaçao, Netherlands Antilles.
- Remotti F, Fetsch JF, Miettinen M. Keratin 1 expression in endothelia and mesenchymal neoplasia. *Mod Pathol*. 2001;14:18A. Abstract 85.
- Roa Martinez E, Koeller KK. Cerebral astrocytomas: radiologic-pathologic correlation. *Radiology*. 2001;221(P):138.
- Robinson KA, Chronos NAF, Royal J, Suh L, Cipolla GD, Virmani R, Stack RS. Actinomycin-D drug-eluting stents preserve lumen size and inhibit fibrocellular neointima in pig coronary arteries. *Circulation*. 2001;104 (suppl II):II-506. Abstract 2396.
- Rodriguez WC III. Kosovo-first response: war crime investigation by a US government team—a forensic anthropological perspective. *Proceedings of the American Academy of Forensic Sciences*. February 2001:240-241.
- Rodriguez WC III. Misinterpretation of canine tooth marks for tool marks: homicide involving the feeding of the remains of a four-year-old child to a rottweiler. *Proceedings of the American Academy of Forensic Sciences*. February 2001:175-176.
- Rodriguez WC III. The thirteen-year search: investigation, recovery, and examination of the skeletonized remains of a six-year-old homicide victim. *Proceedings of the American Academy of Forensic Sciences*. February 2001:243-244.
- Rodriguez WC III, Marzouk AA, Lapa JA, Mallak CT, Graham GR. Kosovo-first response: field experiences of a US medical-legal team. American Academy of Forensic Sciences Meeting; February

2001; Seattle, Wash.

Rosado-de-Christenson ML. Tumors of the lung, pleura, and chest wall. *Eur Radiol.* 2001(suppl 1);11:46.

Rosado-de-Christenson ML, Kazerooni EA. Differential diagnosis of mediastinal masses. *Radiology.* 2001;221(P):59.

Ryan G, Fisk BA, Constantine G, Sesterhenn IA, Moul JW, McLeod DG, Peoples GE. Preclinical testing of a peptide-based, HER2/Neu vaccine in prostate cancer. *Proc Am Assoc Cancer Res.* 2001;42:681. Abstract 3668.

Sabnis SG, Ross WB, Chavan AR, Bratthauer GL. Presence of CD30 reactive deposits in membranous glomerulopathy: a useful marker? Follow-up study. *Lab Invest.* 2001;81:190A.

Saladino B, Williams B, McLean I. Retinal degeneration in domestic ferrets. American College of Veterinary Pathologists; December 2001; Salt Lake City, Utah. *Vet Pathol.* 2001;38:573.

Sandberg GD, Bouffard J-P, Washburn KR, Babcock MS, Wong K. Myofibrillar myopathy with desmin positive myofibrillar ovoids and central cores in two adult patients. *J Neuropathol Exp Neurol.* 2001;60:527.

Schulman FY, Krafft AE, Janczewski T, Reupert R, Jackson K, Garner MM. Camelid cutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus. American College of Veterinary Pathology Meeting; 2001; Salt Lake City, Utah.

Schulman FY, Krafft AE, Janczewski T, Reupert R, Jackson K, Garner MM. Camelid mucocutaneous fibropapillomas: clinicopathologic findings and association with papillomavirus infection. *Vet Pathol.* 2001;38:575.

Sesterhenn IA, Mostofi FK, Davis CJ, Zhang W, Brinsko RW. Does invasive grade I urothelial carcinoma exist? *J Urol.* 2001;165 (suppl 5):65. Abstract 1063.

Sesterhenn IA, Zhang W, Mostofi FK, Davis CJ, Moul JW, Gibbons M, McLeod DG. Significance of seminal vesicle invasion. *Lab Invest.* 2001;81:122A. Abstract 712.

Shetty RK, Moshari A, McLean IW. Evaluation of the immunohistochemical staining intensity of Melan-A and HMB-45 in malignant choroidal melanomas. *Invest Ophthalmol Vis Sci.* 2001;42:S216. Abstract 1163-B476.

Shroff S, Farb A, John M, Virmani R. Neointima formation inhibited, but healing incomplete 12 months after deployment of high dose ³²P beta-emitting stents. *Cardiovasc Radiat Med.* 2001;2:56.

Sidransky E, Schiffmann R, Tayebi N, Krasnewich D, Stubblefield BK, Vortmeyer AO, Wong K. Gaucher disease and parkinsonism: clinical, molecular and neuropathological findings. *Am J Hum Genet.* 2001;69:479.

Specht CS, Lewin-Smith MR, Ladich ER, Kalasinsky VF, Mullick FG. Histopathologic study of skin biopsies in Gulf War veterans. The Kuwait Registry AFIP. In: *Abstracts of the Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research*; January 24-26, 2002; Alexandria, Va.

Strollo DC, Rosado-de-Christenson ML, Franks TJ. Bronchioloalveolar carcinoma and adenocarcinoma with radiologic features of cystic change: tumor reclassification using the *Revised World Health Organization Classification of Lung and Pleural Neoplasms*. *Radiology.* 2001;221(P):408.

Taleski V, Hadfield TL, David J, Zhang B, Stojkoski S, Sopovski E, Grkov V, Sbrinoska A, Aleksoski A, Murgoska T, Petrovski V, Kamceva M, Nikoloska O, Zezoski M, Nastovski D, Zafirovski B. Molecular detection of *Brucella melitensis* in human peripheral blood samples with RAPID-PCR (Lightcycler). 2nd Croatian Congress of Microbiology; October 3-6, 2001; Brijuni, Croatia.

Taleski V, Nikolovski B, Sopovski E, Hadfield TL, David J, Zhang B. RAPID-PCR (Lightcycler) in diagnosis of biological agents. World Congress on Chemical and Biological Terrorism; April 22-27, 2001; Dubrovnik, Croatia. Abstract 46.

Taubenberger JK, Reid AH, Janczewski TA, Mccall S, Fanning TG. Genetic characterization of the 1918 'Spanish' influenza virus. Royal Society Meeting: Pandemic Influenza; April 25-26, 2001; London, England.

Taubenberger JK, Slemons RD, Reid AH, Janczewski TA, Dean J, Fanning TG. 1917 avian influenza sequences suggest the 1918 pandemic virus did not acquire its haemagglutinin directly from birds. IVth Annual Conference on Influenza and Other Respiratory Viruses, November 29, 2001; Curaçao, Netherlands Antilles.

Taviera-DaSilva AM, Hedin CJ, Matsui K, Travis WD, Ferrans VJ, Moss J. Predictors of rate of decline in lung function in patients with lymphangioleiomyomatosis (LAM). *Am J Respir Crit Care Med.* 2001;163.

Thomas W, Burgess R, David J, Hadfield T. Comparison of Vitek® 32 and Microlog® ML3 systems for identification of select biological warfare agents. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April, 8-11, 2001; Houston, Tex.

Thomas W, Burgess R, David J, Hadfield TL. Comparison of Vitek® 32 and Microlog® ML3 systems for identification of select biological warfare agents. American Society for Microbiology Meeting; May 20-24, 2001; Orlando, Fla.

Thompson LDR, Wieneke JA, Heffess CS. Malignant pheochromocytoma of adrenal gland: a clinicopathological and immunophenotypic study of 50 cases. *Mod Pathol.* 2001;14:79A. Abstract 449.

Thompson LDR, Wieneke JA, Heffner DK. Spindle cell (sarcomatoid) carcinoma of the larynx: a clinicopathological study of 187 cases. *Mod Pathol.* 2001;14:154A. Abstract 902.

Thompson LDR, Wieneke JA, Heffner DK, Miettinen M. Spindle cell (sarcomatoid) carcinoma of the larynx: an immunohistochemical analysis of 123 cases. *Mod Pathol.* 2001;14:154A. Abstract 901.

Tortella FC, Williams AJ, Hale SL, Elliot P. Neuroprotection and ischemic brain injury in rats: improved therapeutic window obtained with the anti-inflammatory drug PS519. Society for Neuroscience Annual Meeting; 2001.

Trupiano JK, Prayson RA, Gyure KA, Kleinschmidt-DeMasters BK, Morrison MD. *Mycobacterium avium-intracellulare* complex (MAC) infection in the central nervous system (CNS). *Mod Pathol.* 2001;14:187A.

Ueda T, Khan S, Emmert S, Shahnavi T, Busc D, Schneider T, Kraemer K. A G to A change at the splice donor site of intron 2 in the xeroderma pigmentosum group C (XPC) gene alters the efficiency of PremRNA splicing. *J Invest Dermatol.* 2001;117:515 Abstract 755.

Vono MB, Watson ML, Rushing EJ. Molecular evidence for subtypes of "polymorphous oligodendrogliomas." *J Neuropathol Exp Neurol.* 2001;60:534.

White JS, McLean IW, Nath J, Becker RL, Director-Myska AE. Molecular prognostic indicators of uveal melanoma: correlation of DNA sequence copy number aberrations with patient follow-up. *Environ Mol Mutagen.* 2001;37(suppl 32):79.

Wieneke JA, Gannon FH, Heffner DK, Thompson LDR. Giant cell tumor of larynx: a series of eight cases. *Mod Pathol.* 2001;14:154A. Abstract 903.

Williams AJ, Tortella FC, Yao C, Yu ZY, Hale SL, Berti R, Dave JR. Expression of sodium channel genes following ischemic injury: an in situ hybridization study. Society of Neuroscience Annual Meeting; 2001.

Wong K, Wenger JB, Kaya B, Bouffard J-P, Mena H, Schiffmann R. Glial differentiation of foamy oligodendroglial cells and astrocytic abnormalities in childhood ataxia with diffuse cerebral hypomyelination (CACH). *J Neuropathol Exp Neurol* 2001;60:515.

Wong PWK, Lawitz E, Torgenson S, Goodman Z, Centeno JA. The effects of hepatic steatosis on hepatic iron concentration in fresh and paraffin-embedded tissues. *Am J Gastroenterol.* 2001;96:S139.

Yeh MM, Wright E, Seeff L, Strader D, Buskell-Bales Z, Goodman Z. The changing histologic features of chronic hepatitis C in IV drug abusers – 1970's vs 1990's. *Mod Pathol.* 2001;14:205A.

Zhang B, Dempsey M, Hadfield TL, D'Silva D, Ritter T, Caplin B, Rasmussen R. Comparison of TaqMan and FRET probes for identification of *Bacillus anthracis*. Society of Armed Forces Medical Laboratory Scientists Annual Meeting; April 8-11, 2001; Houston, Tex.

Zhang B, Dempsey M, Hadfield TL, D'Silva D, Ritter T, Caplin B, Rasmussen R. Comparison of TaqMan and FRET probes for identification of *Bacillus anthracis*. American Society for Microbiology Meeting; May 20-24, 2001; Orlando, Fla.

Zhang S, Lo S-C. Expression of cyclins and cyclin dependent kinases in mycoplasma-infected and mycoplasma-transformed 32D cells. In: *Abstracts of the 101st General Meeting of the American Society for Microbiology.* Orlando, Fla: American Society for Microbiology; 2001:385. Abstract G-1.

Zhang S, Lo S-C. Mycoplasma culture medium SP4 blocks gene transfer into eukaryotic cells using the calcium phosphate method. In: *Abstracts of the 101st General Meeting of the American Society for Microbiology.* Orlando, Fla: American Society for Microbiology; 2001:390. Abstract G-25.

Zhao J, Wu R, Marquez A, Chu W-S, Abbondanzo SL, Shi ZR. Screening C-myc translocations in archival lymphomas by chromogenic in situ hybridization (CISH) with SPT C-myc probe. *J Mol Diagn.* 2001;3:H8.

Zou Z, Gao C, Moul JW, Srivastava S, Zhang W, Sesterhenn IA, Gleave M, Rennie P. Modulation of maspin expression by p53 and androgen signaling in prostate tumor cells. *J Urol.* 2001;165(suppl 5):137. Abstract 562.

Zou Z, Zhang W, Gao C, Connell T, Moul JW, Srivastava S, Sesterhenn IA. Modulation of maspin expression by p53 and androgen signaling in prostate tumor cells. *Proc Am Assoc Cancer Res.* 2001;42:791. Abstract 4247.

OTHER PUBLICATIONS

Anderson A, Mills JP, Card FW, eds. *Armed Forces Institute of Pathology Annual Research Progress Report 2000*. Washington DC: Armed Forces Institute of Pathology; 2001.

Barbian L, Berndt L. When your insides are out: museum visitor perceptions of displays of human anatomy. In: Williams E, ed. *BAR S934 2001: Human Remains: Conservation, Retrieval and Analysis*. Proceedings of a conference held November 7-11, 1999, in Williamsburg, Virginia. Oxford, England: British Archaeological Reports; 2001:257-266.

Bouchiha S, Williams B, Young D, Garner M. Vascular neoplasia in the domestic ferret (*Mustela putorius furo*). American College of Veterinary Pathologists; December 2001; Salt Lake City, Utah. Poster.

Brown D, Wilson S, eds. *The Sum of All Fear: A Compendium of Laboratory Management Topics and Issues*. 6th and 7th eds. 2001. Self-published.

Brown RD. *Leveraging Advances in Biotechnology and Medical Informatics to Improve Homeland Bio-defense Capabilities*. Bioterrorism Report 2001.

Craigmiles RG. Consultant's corner. *Society Scope*. Spring 2001;4:2. Society of Armed Forces Medical Laboratory Scientists Newsletter.

Craigmiles RG. President's message. *Society Scope*. Winter 2001;4:1. Society of Armed Forces Medical Laboratory Scientists Newsletter.

Director-Myska AE, McLean IW. Molecular cytogenetic characterization of ten uveal melanoma cell lines. In: *Proceedings of the Workshop on Prognostic Factors in Uveal Melanoma*; 2001; Lieden, The Netherlands.

Dunn DG, Inskeep W, Martinez MJ, Scott DP, Eastep JC, Eggers JS, Moeller RB. *Veterinary Necropsy Protocol for Military Working Dogs and Pathology Specimen Submission Guidelines*. Washington, DC: Headquarters, Department of the Army; Army Technical Bulletin Medical 283.

Galvin JR, Rosado de Christenson ML, Franks TJ, McEvoy PL, Frazier AA. Inhalational anthrax. 2001. <http://anthrax.radpath.org/>

Genitourinary Pathology, Syllabus for the Annual Course; 2001.

Kaplan FS, Glaser DL, Shore EM, Emmerson, Mitchell D, Gannon FH. Medical management of fibrodysplasia ossificans progressiva: current treatment considerations. In: *Clinical Proceedings of the Third International Symposium*, FOP. 2001;1:1-52.

Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. February 2001; 159.

Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. April 2001; 159.

Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. June 2001; 159.

Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. August 2001; 159.

Kelly C, Mills JP, Hammonds M, eds. *AFIP LETTER*. October 2001; 159.

Kelly C, Mills JP, Hammonds M, eds. *AFIP Update*. March 2001.

Kelly C, Mills JP, Hammonds M, eds. *AFIP Update*. June 2001.

Kingma DW, Sorbara L, Kurlander R, Imus P, Taubenberger JK, Stetler-Stevenson M. CD3 negative, clonal lymphoproliferative disorder of granular lymphocytes. *Case Studies in Clinical Flow Cytometry*. 2001; 1(2). [On-line journal, www.flowcases.org/].

Mapp BH, ed. *Society Scope*. Spring 2001. Society of Armed Forces Medical Laboratory Scientists Publication.

Mapp BH, ed. *Society Scope*. Summer 2001. Society of Armed Forces Medical Laboratory Scientists Publication.

Mapp BH, ed. *Society Scope*. Fall 2001. Society of Armed Forces Medical Laboratory Scientists Publication.

Mapp BH, ed. *Society Scope*. Winter 2001. Society of Armed Forces Medical Laboratory Scientists

Publication.

Miller AC, Luo L, Chin WK, Director-Myska AE, Prasanna PGS, Blakely WF. Proto-oncogene expression: a predictive assay for radiation biodosimetry applications. *Proceedings of the 13th Symposium on Microdosimetry*; 2001; Stresa, Italy.

Nephropathology. Syllabus for Update Renal Biopsies Course; 2001.

Neuropathology. Creutzfeldt-Jakob disease. Check Sample for Histopathology Quality Assessment Program.

Neuropathology. Syllabus for 39th Annual Neuropathology Review; 2001.

Oral and Maxillofacial Pathology. Syllabus for the Forensic Dentistry Course; 2001.

Rhode M. The other battle of WWI. *Hogan's Alley*. 2001;9:105-109.

Rietcheck RL. *2000-2001 Wednesday Slide Conference*. Washinton, DC: Armed Forces Institute of Pathology; 2001.

Sabnis SG. Pathology of renal transplant. In: *Proceedings of the Annual Conference of the West Zone Chapter of the Indian Society of Nephrology*. 2001:6-12.

Sledzik PS, Barbian L. From privates to presidents: past and present memoirs from the Anatomical Collections of the National Museum of Health and Medicine. In: Williams E, ed. *BAR S934 2001: Human Remains: Conservation, Retrieval and Analysis*. Proceedings of a conference held November 7-11, 1999, in Williamsburg, Virginia. Oxford, England: British Archaeological Reports; 2001:227-235.

Squazzo K, Card F, Oetjen-Gerdes L, Casey B, Stringfellow K. ARP/AFIP 2002 Calendar. Washington, DC: American Registry of Pathology; 2001.

Soft Tissue Pathology. Syllabus for Soft Tissue Pathology Course; 2001.

Sweet DE. Growth and development, manifestations of disease, radiographic margins/periosteal reactions/ matrix patterns and ancillary studies, pathogenesis of osteonecrosis, benign fibrous and cystic lesions of bone, giant cell tumor and aneurysmal bone cyst, and chondromas of bone [syllabus and CD-ROM]. AFIP/ARP; September 2001.

Sweet DE. Growth and development, manifestations of disease, radiographic margins/periosteal reactions/matrix patterns and ancillary studies, pathogenesis of osteonecrosis, benign fibrous and cystic lesions of bone, giant cell tumor and aneurysmal bone cyst, and chondromas of bone [syllabus and CD-ROM]. COA Orthopedic Pathology Course; October 2001.

Sweet DE. Radiologic pathologic correlation of solitary bone lesions [syllabus]. AFIP General Surgical Pathology Review Course; May 2001.

Veterinary Pathology. Syllabus for CLASS; 2001.

Veterinary Pathology. Syllabus for Descriptive Veterinary Pathology; 2001.

Veterinary Pathology. Syllabus for POLA; 2001.

Vinh TN, Sweet DE. Infectious disease of bone and joints/pathophysiology of arthritis [syllabus]. AFIP/ARP; September 2001.

Vinh TN, Sweet DE. Infectious disease of bone and joints/pathophysiology of arthritis [syllabus and CD-ROM]. COA Orthopedic Pathology Course; October 2001.

Williams BH, Murakata L. Neoplasms of the liver in the domestic ferret (*Mustela putorius furo*). American College of Veterinary Pathologists; December 2001; Salt Lake City, Utah. Poster.

Wilson S, Mapp B. White Paper for Federal Advisory Committee-Healthcare Quality Initiatives Review Panel (HQIRP). DoD Laboratory Standards.

